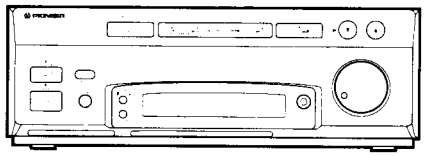
PIONEER®
The Art of Entertainment

Service Manual



ORDER NO.
RRV1051

STEREO TUNER AMPLIFIER

SX-J520
SX-J420
SX-J320

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model			Power Requirement	The voltage can be converted by the following method.
	SX-J520	SX-J420	SX-J320		
HE	○	○	○	AC220−230V	AC240V, ✻
HB	○	○	○	AC240V	AC220−230V, ✻
HL	—	○	○	AC220−230V/240V	With the voltage selector
SD	—	○	○	AC110−115V/120−127V/220−230V/240V	With the voltage selector
HEWZI	○	○	○	AC220−230V	AC240V, ✻

✻: Alter the wiring of the Power-supply block at the primary winding of Power transformer referring to the "Line Voltage Selection" described in Service Manual.

● **These products are systems components.**
Each of these products does not function properly when independent ; to avoid malfunctions, be sure to connect it to the prescribed system component(s), otherwise damage may result.

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1. EXPLODED VIEWS, PACKING AND PARTS LIST

NOTES :

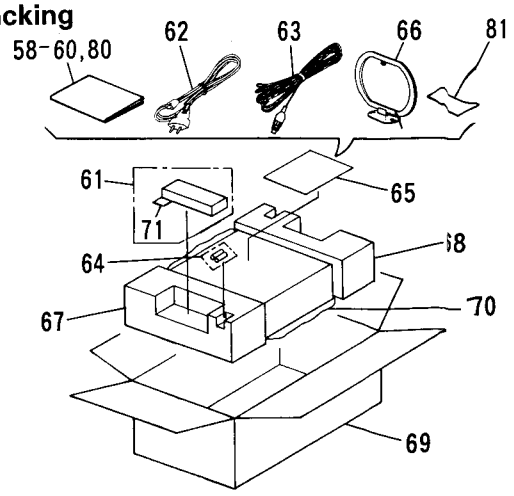
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

1.1 EXTERIOR AND PACKING

● Parts List

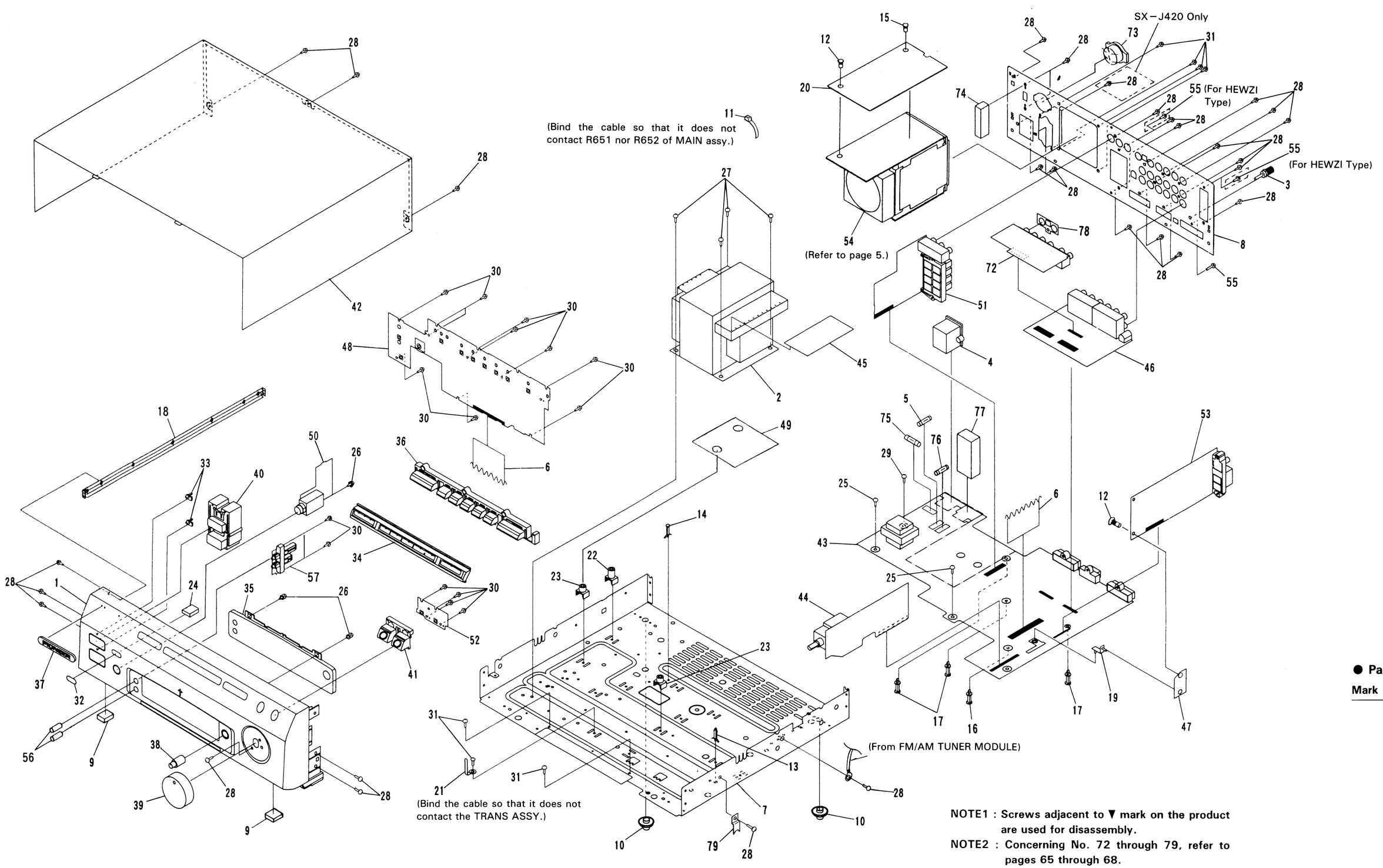
Mark	No.	Description	Parts No.
	1	FRONT PANEL (PLS)	AMB2195
⚠	2	POWER TRANSFORMER (T1)	ATS1508
	3	TERMINAL SCREW	AKE−031
⚠	4	AC INLET (1P) (CN1)	AKP1132
⚠	5	FUSE (T2A/250V, FU2)	AEK−511
	6	FLEXIBLE CABLE (J101)	ADD1112
NSP	7	CHASSIS (MTL)	ANA1193
	8	REAR PANEL	ANC2130
	9	RUBBER SHEET	AEB1247
	10	LEG ASSY (S)	AMR1937
	11	NYLON BINDER	AEC−093
	12	NYLON RIVET	AEC1160
NSP	13	PCB SPACER	AEC1188
NSP	14	PCB SUPPORT	AEC1217
	15	RIVET (PLASTIC)	AEC1359
NSP	16	PCB SPACER	AEC1371
	17	PCB SPACER	AEC1372
NSP	18	REINFORCED BRACKET	ANG1635
	19	PCB CONNECTOR (PVC)	AEC1500
	20	BARRIER	AEC7002
	21	BINDER	AEP−215
NSP	22	PCB MOULD	AMR1525
NSP	23	PCB MOULD	AMR2115
	24	REFLEX PLATE	ANK1259
	25	SCREW	ABA1024
	26	SCREW (STEEL)	ABA1095
	27	SCREW (STEEL)	ABA1184
	28	SCREW	BBZ30P080FZK
	29	SCREW	BBZ30P180FMC
	30	SCREW	BPZ26P080FMC
	31	SCREW	VPZ30P080FZK
	32	REMOTE CONT. FILTER	AAK2261
	33	LENS (POWER IND)	AAK2343
	34	KNOB SHEET (PLS)	AAK2522
	35	DISPLAY PANEL (PLS)	AAK2527
	36	SUB PANEL (PLS)	AMR2597
	37	NAME PLATE	PAM1407
	38	MIC KNOB (PLS)	AAB1379
	39	VOL KNOB	AAB1322
	40	POWER BUTTON	AAD2497
	41	SELECT BUTTON	AAD2499
	42	BONNET (MTL)	ANE1448
	43	MAIN ASSY	AWZ5192
	44	VOLUME ASSY	AWZ5198
NSP	45	TRANS ASSY	AWZ5593
	46	FUNC ASSY	AWZ5195
NSP	47	SUPPORT ASSY	AWZ5291
	48	FRONT ASSY	AWZ5203
	49	BARRIER (PVC)	AEC7005
NSP	50	H. P. ASSY	AWZ5208
NSP	51	SP ASSY	AWZ5261
NSP	52	TACT SW ASSY	AWZ5230
	53	FM/AM TUNER MODULE	AXQ1013
	54	POWER MODULE (F100)	AXQ1017
	55	SCREW	ABA−115
	56	SP CHANGE BUTTON (PLS)	AAD2527
NSP	57	SW ASSY	AWZ5214
	58	OPERATING INSTRUCTIONS (German, Italian)	ARC1446
	59	OPERATING INSTRUCTIONS (Dutch, Swedish, Spanish, Portuguese)	ARC1447
	60	OPERATING INSTRUCTIONS (English, French)	ARE1292
	61	REMOTE CONTROL UNIT (CU−SX075)	AXD1376
⚠	62	AC POWER CORD	ADG1127
	63	FM ANTENNA	ADH1019
NSP	64	BATTERIES (R03, AAA)	AEX−021
NSP	65	VINYL BAG	AHG−117
	66	AM LOOP ANTENNA ASSY	ATB1012
	67	FRONT PAD	AHA1652
	68	REAR PAD	AHA1653
	69	PACKING CASE	AHD2654
	70	SHEET	AHG1016
	71	BATTERY COVER	AZN2235

● Packing



Note: Concerning No. 80 and 81, refer to page 67 and 68.

● Exterior

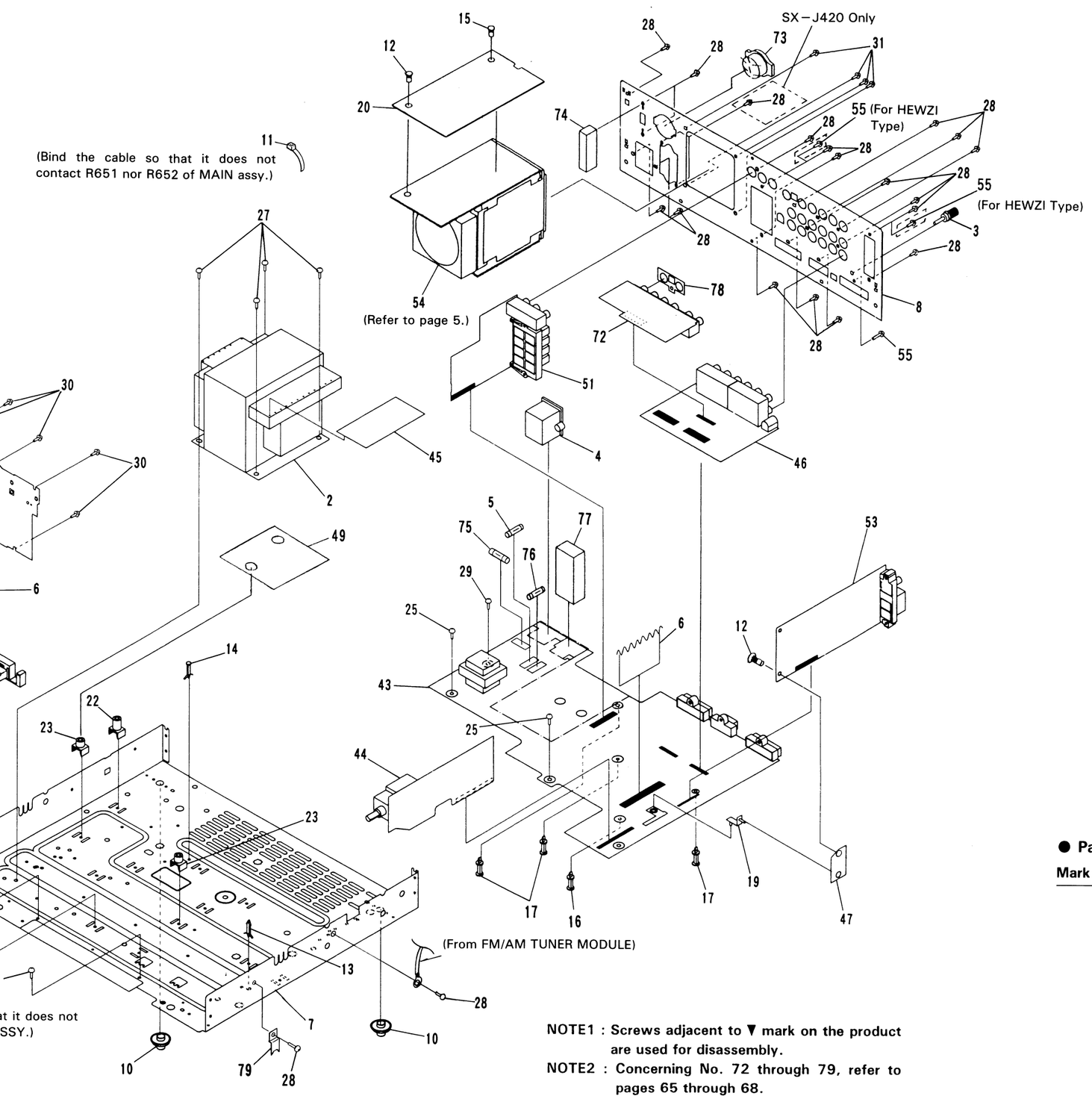

(Bind the cable so that it does not contact R651 nor R652 of MAIN assy.)
(Refer to page 5.)
SX−J420 Only
AXQ1020 Only
55 (For HEWZI Type)
(From FM/AM TUNER MODULE)
(Bind the cable so that it does not contact the TRANS ASSY.)

NOTE1 : Screws adjacent to ▼ mark on the product are used for disassembly.

NOTE2 : Concerning No. 72 through 79, refer to pages 65 through 68.

● Parts List

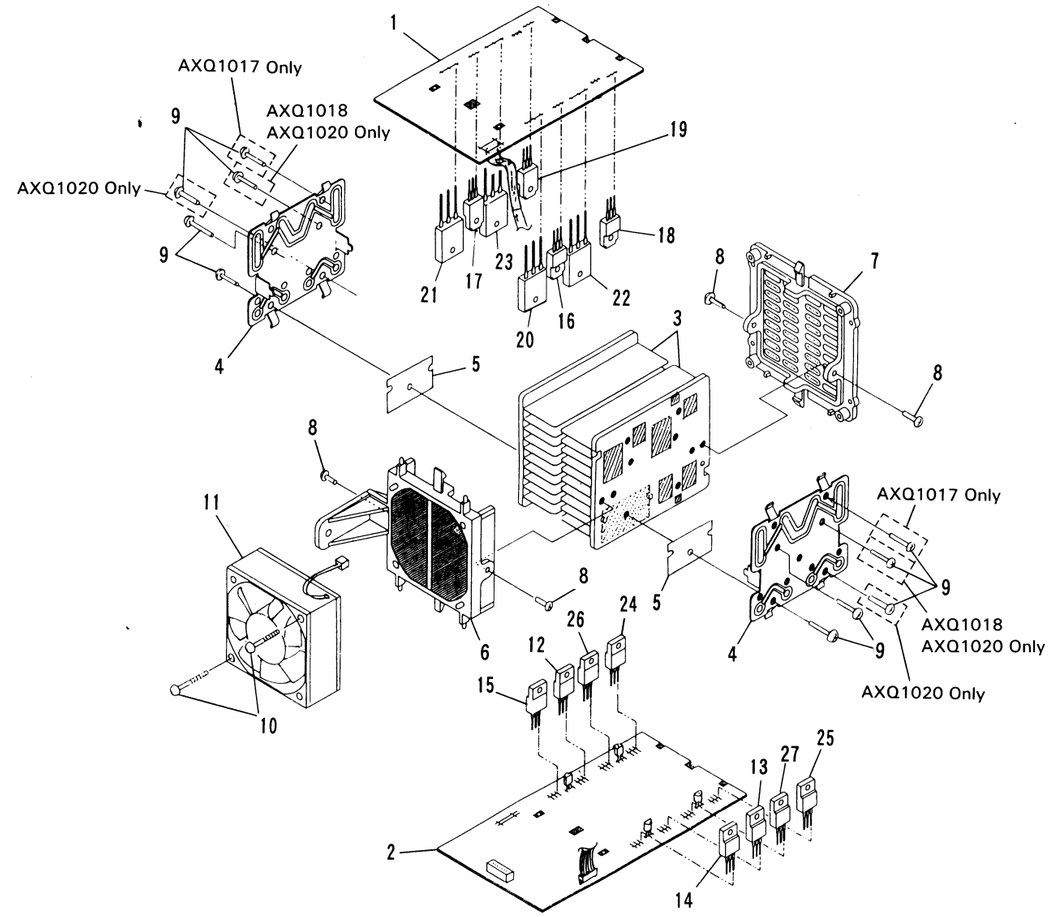
Mark	No.	Descript
	1	FRONT A
	2	PWR, PR
	3	HEAT SI
	4	BRACKE
	5	SHEET
	6	MOLD A
	7	MOLD B
	8	SCREW (
	9	SCREW
	10	SCREW
	11	FAN MO
	12	REGULA


SX−J420 Only
55 (For HEWZI Type)
(For HEWZI Type)
(Bind the cable so that it does not contact R651 nor R652 of MAIN assy.)
(Refer to page 5.)
(From FM/AM TUNER MODULE)
t it does not
SSY.)

NOTE1 : Screws adjacent to ▼ mark on the product are used for disassembly.

NOTE2 : Concerning No. 72 through 79, refer to pages 65 through 68.

1.2 POWER MODULE (F100)



Notes

- *Ensure that silicon grease does not adhere to the MOLD A (No. 6) and MOLD B (No. 7).*
- *Concerning AXQ1017, AXQ1018, AXQ1020 and No. 24 through 27, refer to page 76.*

● **Parts List**

Mark	No.	Description	Parts No.
	1	FRONT ASSY FOR 100W	AWZ5389
	2	PWR, PRTEC ASSY	AWZ5392
	3	HEAT SINK (AL)	ANH1446
	4	BRACKET (MTL)	ANG1868
	5	SHEET	AEB1256
	6	MOLD A (PLS)	AMR2594
	7	MOLD B (PLS)	AMR2595
	8	SCREW (3 × 10)	ABA1021
	9	SCREW	BBZ30P140FZK
	10	SCREW	BPZ30P350FZK
	11	FAN MOTOR	AXM1019
	12	REGULATOR IC (IC7401)	MC7812CT
	13	REGULATOR IC (IC7402)	NJM7912A
	14	REGULATOR IC (IC7403)	MC7812CT
	15	REGULATOR IC (IC7404)	MC7805CT
	16	TRANSISTOR (Q7503)	2SC4793
	17	TRANSISTOR (Q7504)	2SC4793
	18	TRANSISTOR (Q7509)	2SA1837
	19	TRANSISTOR (Q7510)	2SA1837
⚠	20	TRANSISTOR (Q7511)	2SA1264N
⚠	21	TRANSISTOR (Q7512)	2SA1264N
⚠	22	TRANSISTOR (Q7513)	2SC3181N
⚠	23	TRANSISTOR (Q7514)	2SC3181N

2. SCHEMATIC AND PCB CONNECTION DIAGRAMS

2.1 OVERALL SCHEMATIC DIAGRAM

Line Voltage Selection

Line Voltage can be changed by the following modification:

1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the connection of the power transformer primary taps.

Part No.	Description
AAX−193	220V label
AAX−192	240V label

NOTE FOR SCHEMATIC DIAGRAMS (Type 1A)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or µF unless otherwise noted.
   Ratings: capacitor (µF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.

SCH−1 OVERALL SCHEMATIC DIAGRAM

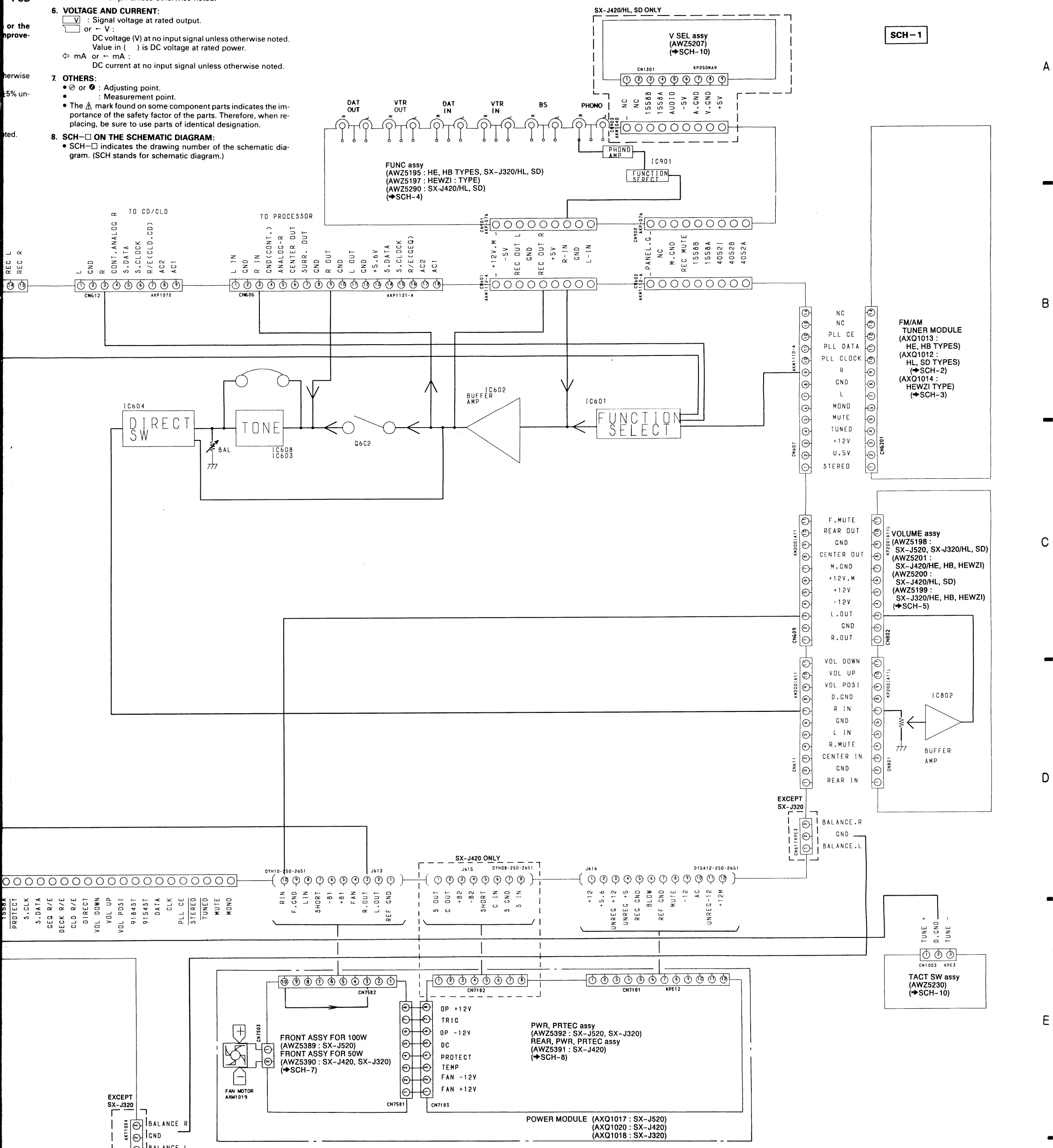
ype 1A)
fer to
"PCB
or the
nprove-
herwise
5% un-
ted.

5. **COILS:**
Unit: m:mH or μH unless otherwise noted.

6. **VOLTAGE AND CURRENT:**
V : Signal voltage at rated output.
or ← V :
DC voltage (V) at no input signal unless otherwise noted.
Value in ( ) is DC voltage at rated power.
⇦ mA or ← mA :
DC current at no input signal unless otherwise noted.

7. **OTHERS:**
- ⊘ or ⬤ : Adjusting point.
- : Measurement point.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

8. **SCH—□ ON THE SCHEMATIC DIAGRAM:**
- SCH—□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)



9. **SWITCHES** (Underline indicates switch position):

S8001 VOLTAGE SELECTOR
AC110-115V/120-127V/220-230V/240V
(SD TYPE ONLY)

S8002 VOLTAGE SELECTOR
AC110-127V/220-240V
(FOR SD TYPE)
AC220-230V/240V
(FOR HL TYPE)

MAIN assy
S601 CHANNEL STEP
100/10kHz -50/9kHz
(HL, SD TYPES ONLY)

FRONT assy
S1101 FM/AM/STA
S1102 SLEEP
S1103 FUNCTION
S1104 DIRECT ON
S1105 STA MEMORY
S1106 TIMER MODE
S1107 TIMER ON/OFF
S1108 POWER
S1109 SET

TACT SW assy
S1003 ▲
S1004 ▼

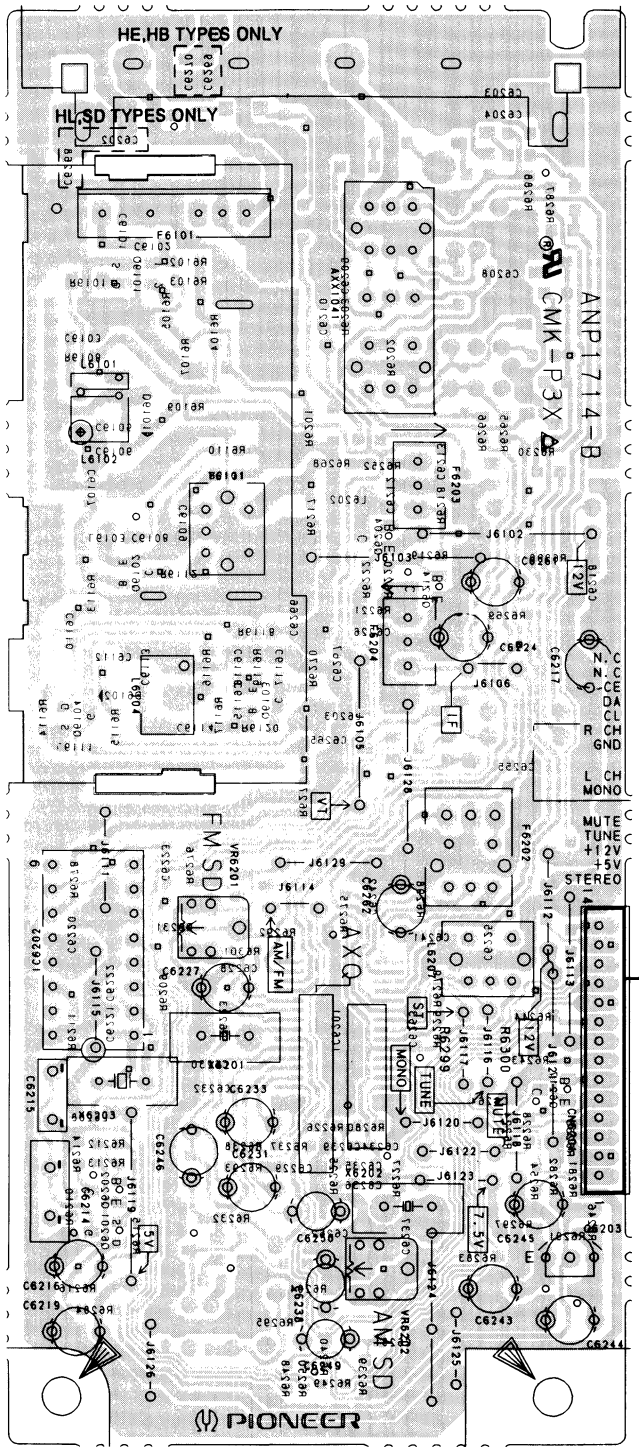
SW assy (SX-J520 ONLY)
S1001 SP-A ON/OFF
SP-B ON/OFF

OVERALL SCHEMATIC DIAGRAM **SCH—1**

2.2 FM/AM TUNER MODULE

● For HE, HB, HL and SD Types

FM/AM TUNER MODULE



Q6101
Q6204
Q6102 Q6214
Q6103
Q6104
VR6201
IC6202
IC6201
Q6217
Q6202
Q6201
Q6203 VR6202

● This diagram is viewed from the mounted parts side.

NOTE FOR PCB DIAGRAMS:

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
Q504 E Q504	Q504 Q504	Transistor
D203 D203	D203	Diode
C513 C513	C513	Capacitor (Polarized)

3. The transistor terminal marked with E or ⊏ shows the emitter.
4. The diode terminal marked with ◎ or ⊂ shows cathode side.
5. The capacitor terminal marked with ◎ or ⊏ shows negative terminal.

NOTE : VOLTAGE AND CURRENT

mV : Signal voltage at FM 1kHz, 100% MOD.

or ← V :
DC voltage (V) at no input signal unless otherwise noted.
Value in ( ) is DC voltage at rated power.

⇦ mA or ← mA :
DC current at no input signal unless otherwise noted.

FM/AM TUNER MODULE (AXQ1013 : HE, HB TYPES)
(AXQ1012 : HL, SD TYPES)

FM F.E.

Q6101 : RF AMP

Q6102 : MIX AMP

Q6103 : OSC

Q6104 : BUFFER AMP

Q6214 : IF AMP

IC6201 : FM/AM IF DETECTION•FM STEREO DECODER

Q6217 : FORCED MONO DRIVE

Q6204 : FM +B SW

AM RF TUNING BLOCK (MW)

Q6201, Q6202 : PLL LOOP FILTER DC AMP

IC6202 : PLL IC

Q6203 : RIPPLE FILTER

HL, SD TYPES

HE, HB TYPES

SCH-2

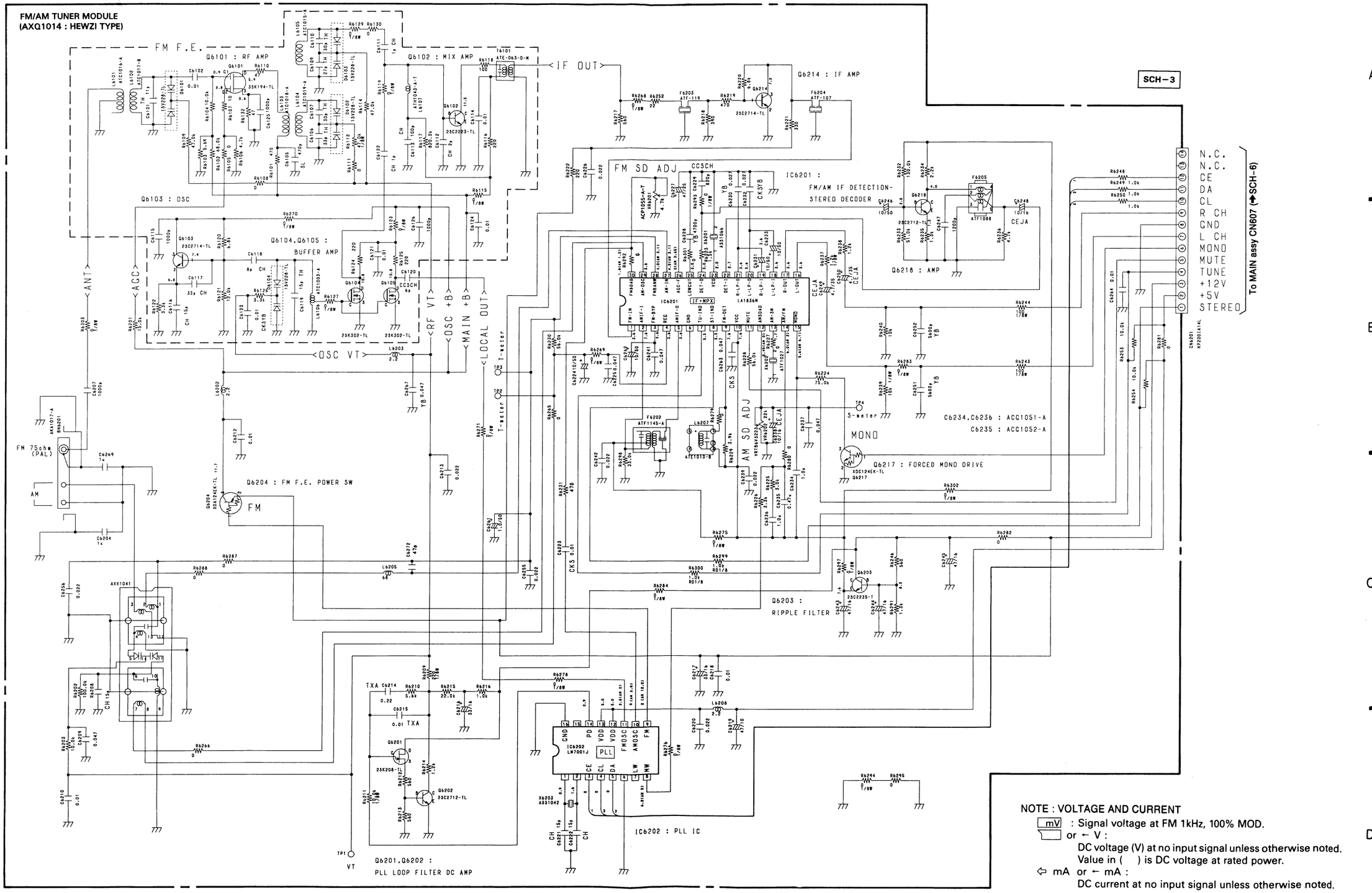
To MAIN assy CN607 (➡SCH-6)

N.C.
N.C.
CE
DA
CL
R CH
GND
L CH
MONO
MUTE
TUNE
+12V
+5V
STEREO

SIGNAL ROUTE

: AUDIO SIGNAL ROUTE
(AM) : AM SIGNAL ROUTE
(FM) : FM SIGNAL ROUTE

● For HEWZI Type



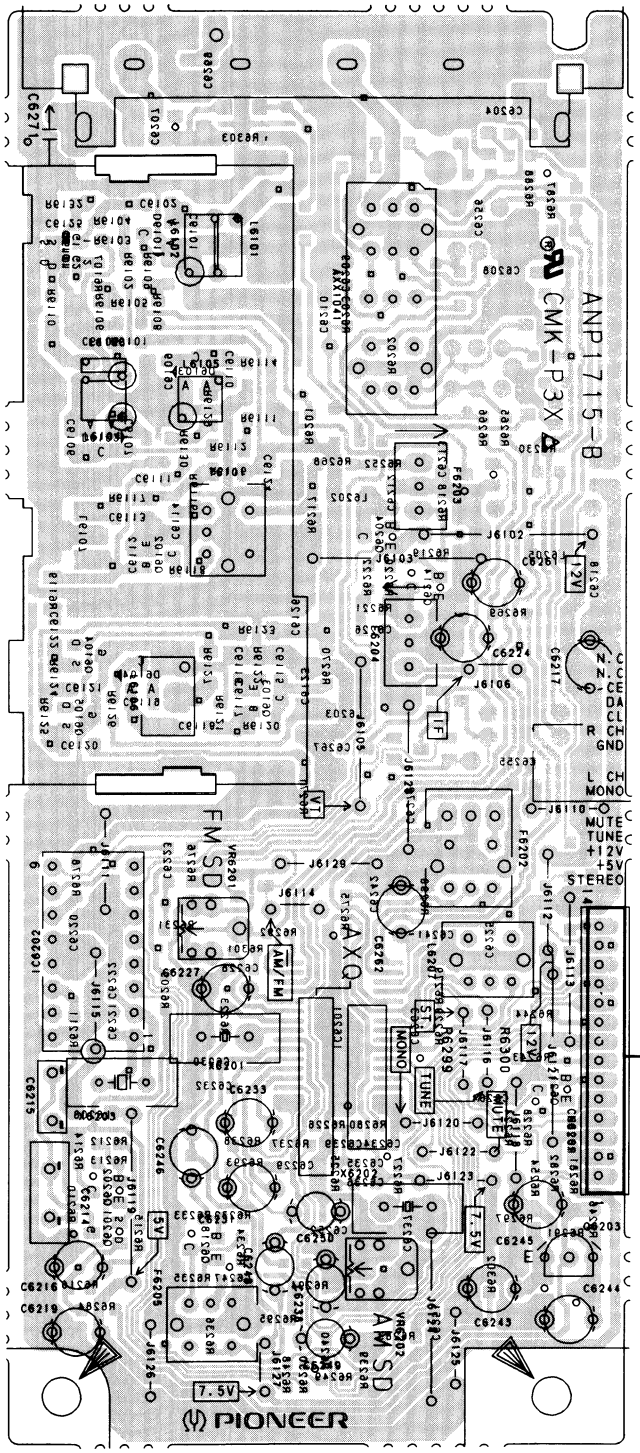
NOTE : VOLTAGE AND CURRENT

mV : Signal voltage at FM 1kHz, 100% MOD.

or ← V :
DC voltage (V) at no input signal unless otherwise noted.
Value in ( ) is DC voltage at rated power.

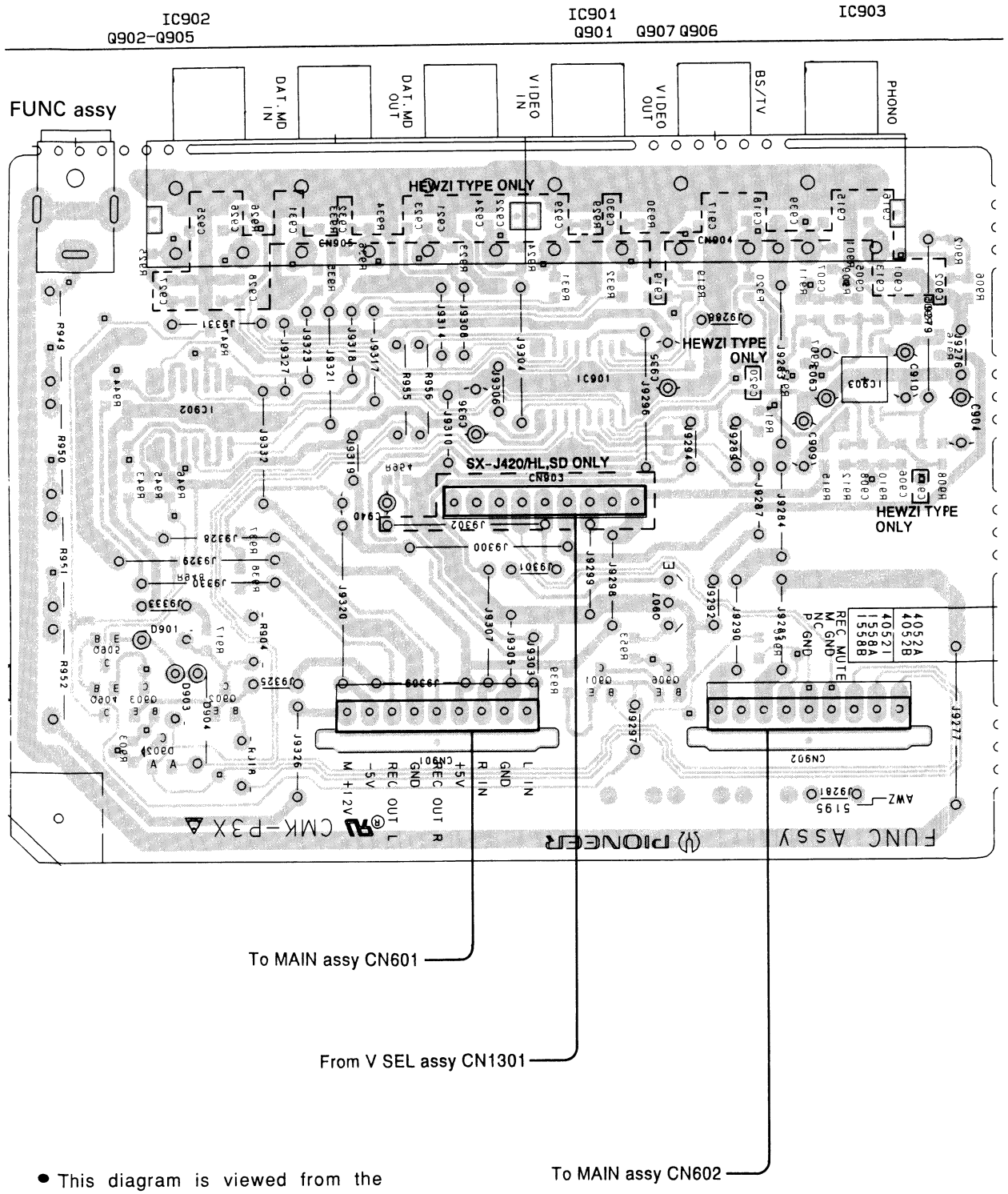
⇦ mA or ← mA :
DC current at no input signal unless otherwise noted.

FM/AM TUNER MODULE



- This diagram is viewed from the mounted parts side.

2.3 FUNC ASSY



- This diagram is viewed from the mounted parts side.

CONDITION	INH	B	A
DAT	H	L	L
PHONO	H	L	H
AUX	H	H	L
VTR	H	H	H

INH:Pin 7 of CN902
A: Pin 9 of CN902
B: Pin 8 of CN902

H : 3.5- 5V
L : 0- 1.5V

SIGNAL ROUTE
: MAIN SIGNAL ROUTE (PHONO)

SCH-4

FUNC assy
(AWZ5195 : HE, HB TYPES, SX-J320/HL, SD)
(AWZ5197 : HEWZI : TYPE)
(AWZ5290 : SX-J420/HL, SD)

PHONO(RIAA)AMP

IC901 : FUNCTION SWITCH

HEWZI TYPE ONLY

SX-J420/HL, SD ONLY

To MAIN assy CN601 (➡SCH-6)
To MAIN assy CN602 (➡SCH-6)
From V SEL assy CN1301 (➡SCH-10)

2.4 VOLUME ASSY

VOLUME assy
(AWZ5198 : SX−J520, SX−J320/HL, SD)
(AWZ5201 : SX−J420/HE, HB, HEWZI)
(AWZ5200 : SX−J420/HL, SD)
(AWZ5199 : SX−J320/HE, HB, HEWZI)

SCH−5

SIGNAL ROUTE
: MAIN SIGNAL ROUTE
: REAR SIGNAL ROUTE
: CENTER SIGNAL ROUTE

VR801 : ACX1067 (SX−J520, SX−J320)
ACX1077 (SX−J420)

C805, C806 : 2.2/50 (EXCEPT SX−J420/HE, HB, HEWZI)
0.47/50 (SX−J420/HE, HB, HEWZI)

R809, R810 : 4.3k (EXCEPT SX−J420/HE, HB, HEWZI)
13k (SX−J420/HE, HB, HEWZI)

IC801 TA84093
IN2 VCC OUT2 NC GND VS OUT1 VREF IN1

L801 220
C828 100/25
R817 2.7k
R816 4.7k
C809 0.1
C810 0.1
VR801 ACX1077

SX-J420/HE,HB HEWZI ONLY

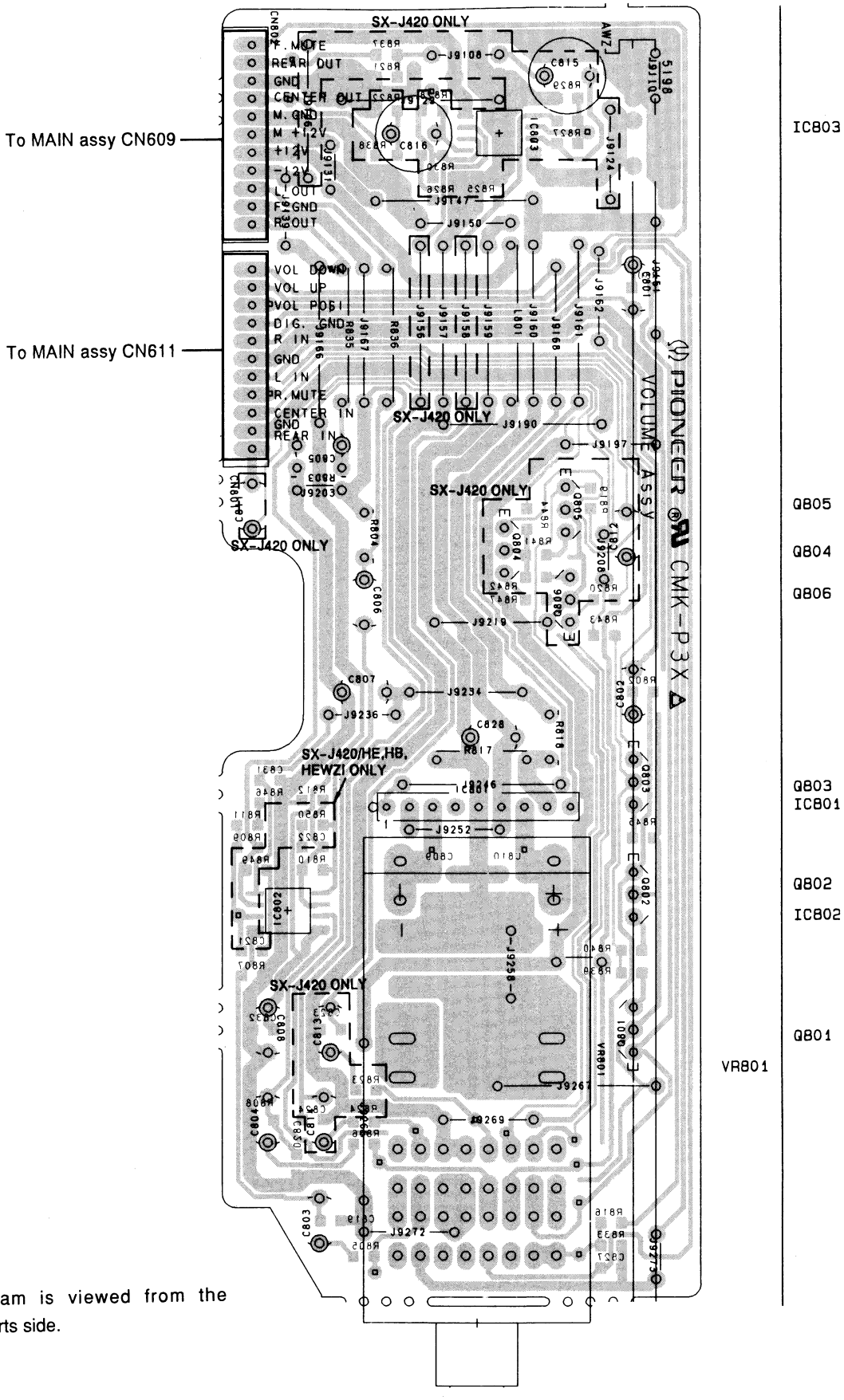
SX-J420 ONLY

IC802 UPC4570G2-TF
IC803 UPC4570G2-TF

CN802 KP200IA11L
F.MUTE
REAR OUT
GND
CENTER OUT
M.GND
+12V.M
+12V
-12V
L.OUT
GND
R.OUT
To MAIN assy CN609 (➡SCH-6)

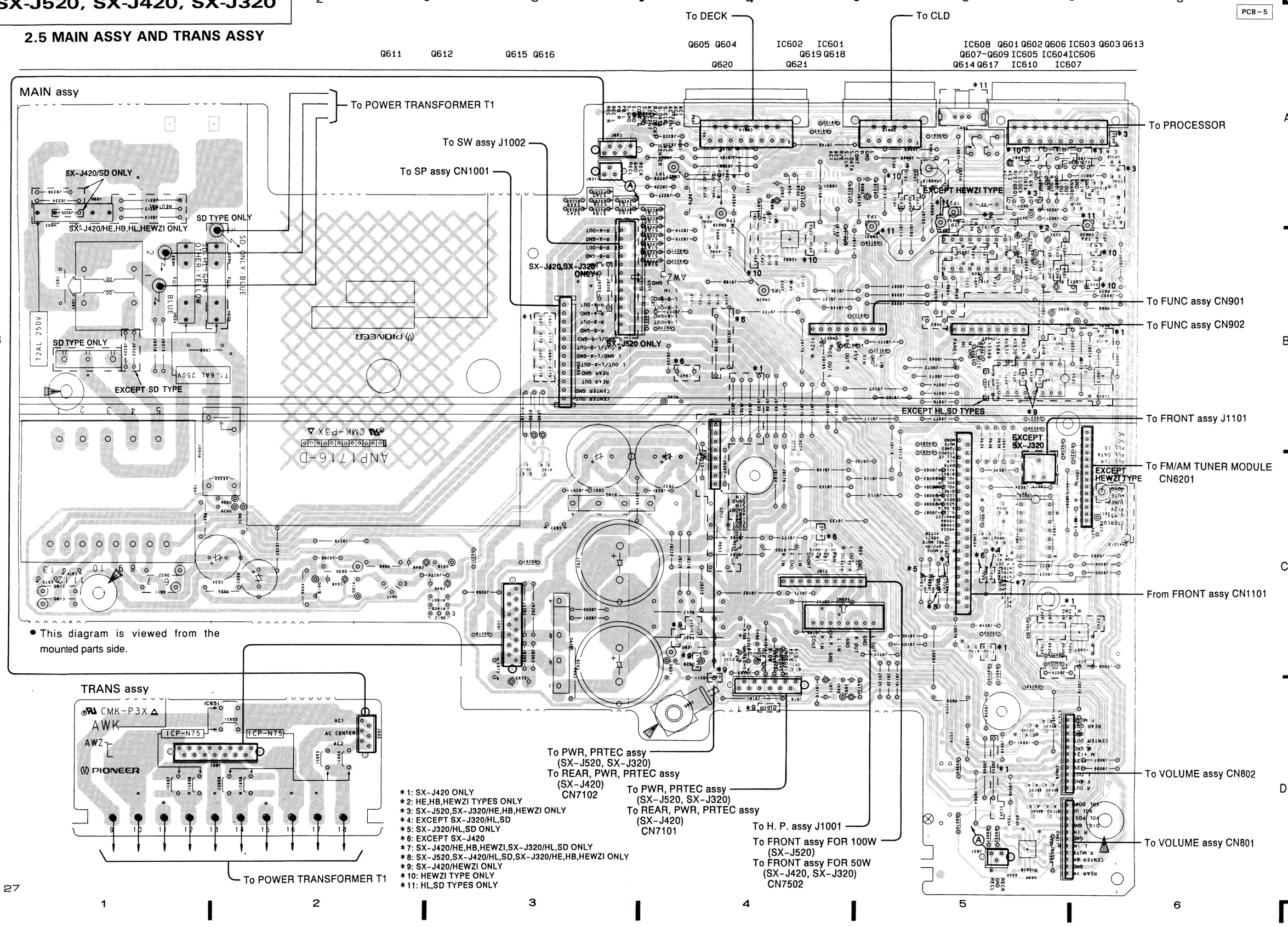
CN801 KP200IA11L
VOL DOWN
VOL UP
VOL POSI
D.GND
R IN
GND
L IN
R.MUTE
CENTER IN
GND
REAR IN
To MAIN assy CN611 (➡SCH-6)

VOLUME assy



- This diagram is viewed from the mounted parts side.

2.5 MAIN ASSY AND TRANS ASSY



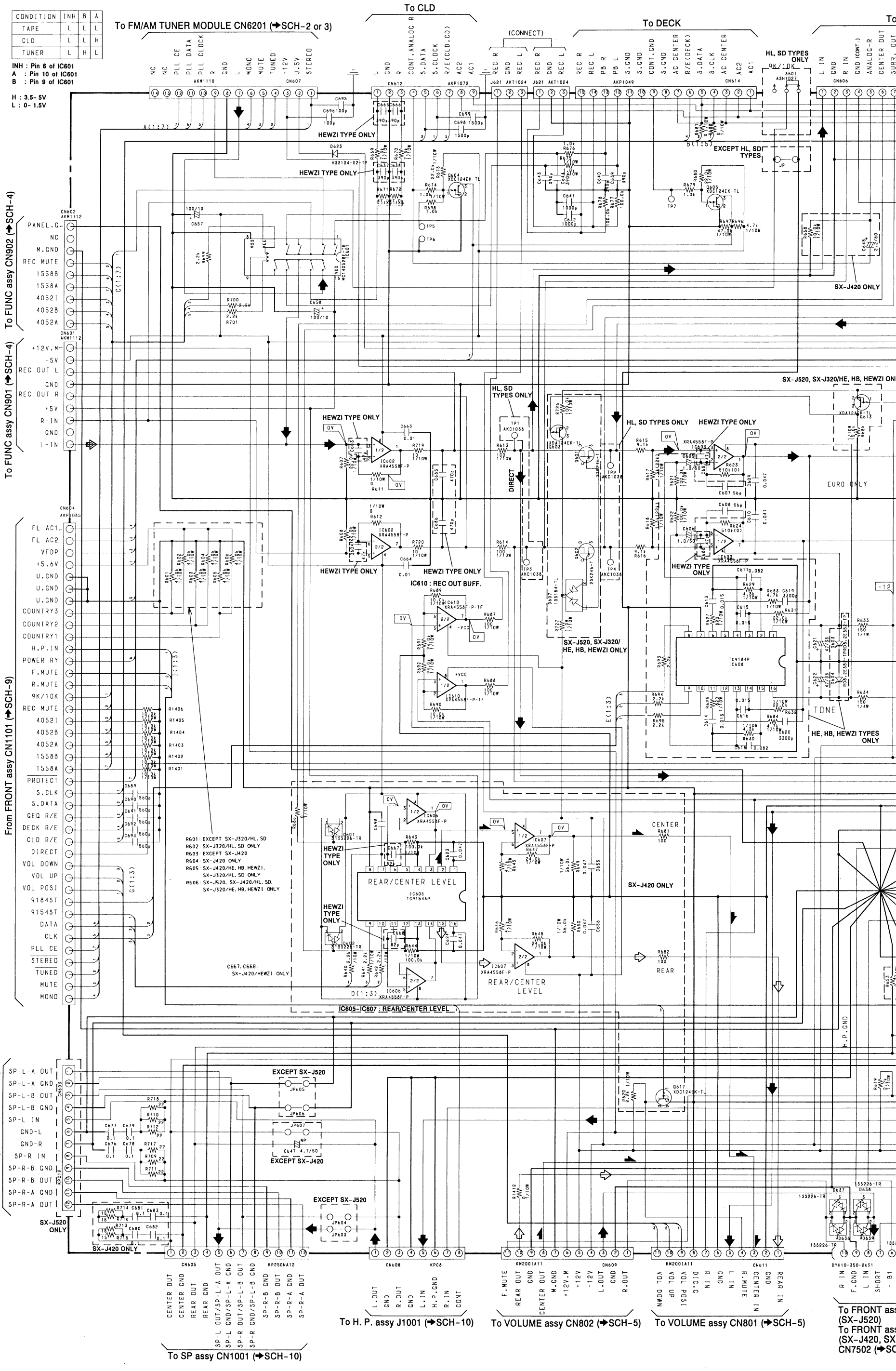
- This diagram is viewed from the mounted parts side.

*1: SX-J420 ONLY
*2: HE,HB,HEWZI TYPES ONLY
*3: SX-J520,SX-J320/HE,HB,HEWZI ONLY
*4: EXCEPT SX-J320/HL,SD
*5: SX-J320/HL,SD ONLY
*6: EXCEPT SX-J420
*7: SX-J420/HE,HB,HEWZI,SX-J320/HL,SD ONLY
*8: SX-J520,SX-J420/HL,SD,SX-J320/HE,HB,HEWZI ONLY
*9: SX-J420/HEWZI ONLY
*10: HEWZI TYPE ONLY
*11: HL,SD TYPES ONLY

CONDITION	INH	B	A
TAPE	L	L	L
CLD	L	L	H
TUNER	L	H	L

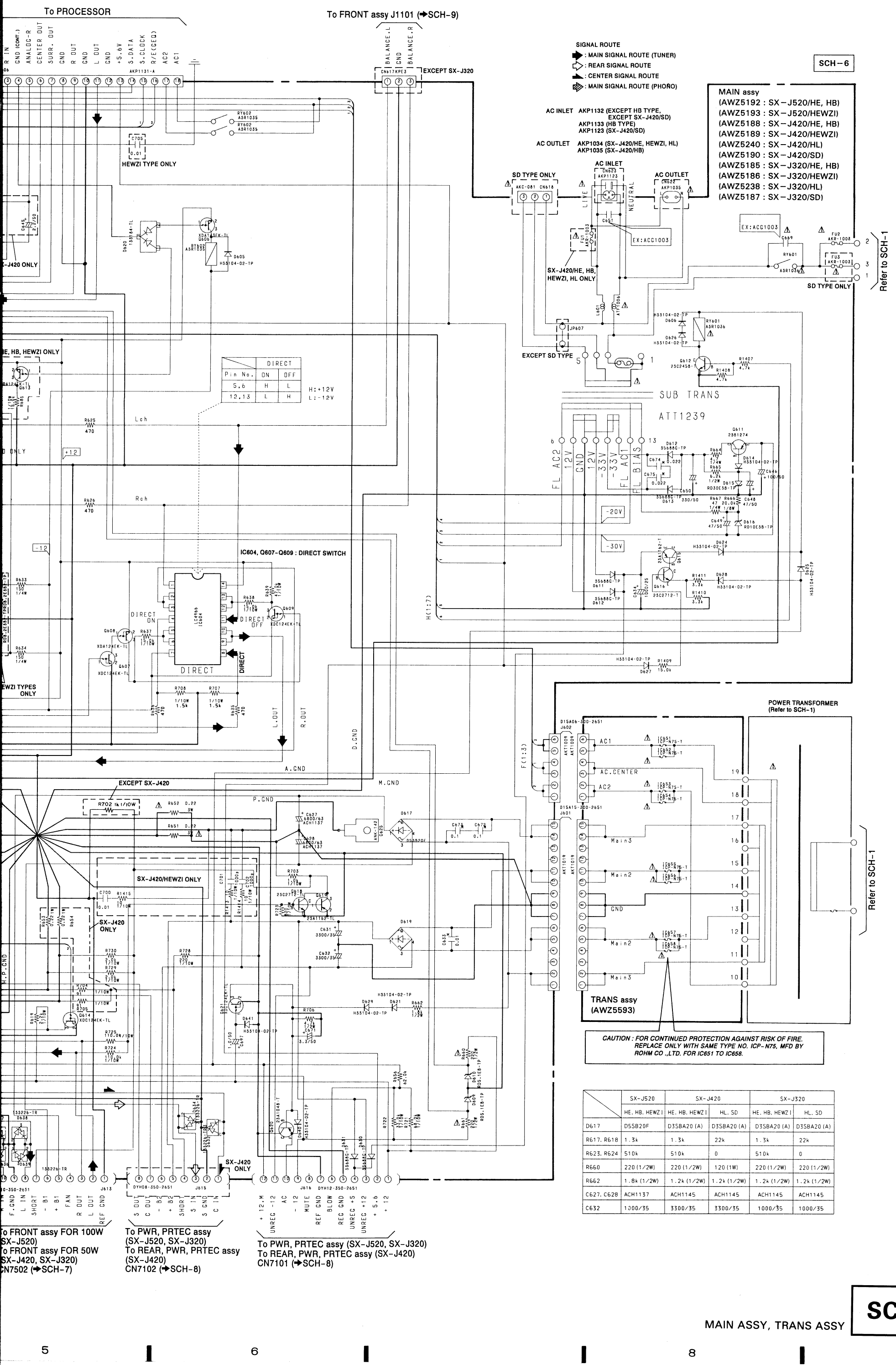
INH : Pin 6 of IC601
A : Pin 10 of IC601
B : Pin 9 of IC601

H : 3.5- 5V
L : 0- 1.5V


To FM/AM TUNER MODULE CN6201 (➔SCH-2 or 3)
To CLD
To DECK
(CONNECT)
HL, SD TYPES ONLY
EXCEPT HL, SD TYPES
SX-J420 ONLY
HEWZI TYPE ONLY
To FUNC assy CN902 (➔SCH-4)
To FUNC assy CN901 (➔SCH-4)
From FRONT assy CN1101 (➔SCH-9)
To SW assy J1002 (➔SCH-10)
SX-J520 ONLY
SX-J420 ONLY
SX-J520, SX-J320/HE, HB, HEWZI ONLY
EURO ONLY
HE, HB, HEWZI TYPES ONLY
DIRECT
IC610 : REC OUT BUFF.
IC605-IC607 : REAR/CENTER LEVEL
REAR/CENTER LEVEL
CENTER
REAR
TONE
R601 : EXCEPT SX-J320/HL. SD
R602 : SX-J320/HL. SD ONLY
R603 : EXCEPT SX-J420
R604 : SX-J420 ONLY
R605 : SX-J420/HE. HB. HEWZI. SX-J320/HL. SD ONLY
R606 : SX-J520. SX-J420/HL. SD. SX-J320/HE. HB. HEWZI ONLY
C667. C668 SX-J420/HEWZI ONLY
To H. P. assy J1001 (➔SCH-10)
To VOLUME assy CN802 (➔SCH-5)
To VOLUME assy CN801 (➔SCH-5)
To SP assy CN1001 (➔SCH-10)
To FRONT ass (SX-J520)
To FRONT ass (SX-J420, SX CN7502 (➔SC

SCH-6

MAIN ASSY, TRANS ASSY



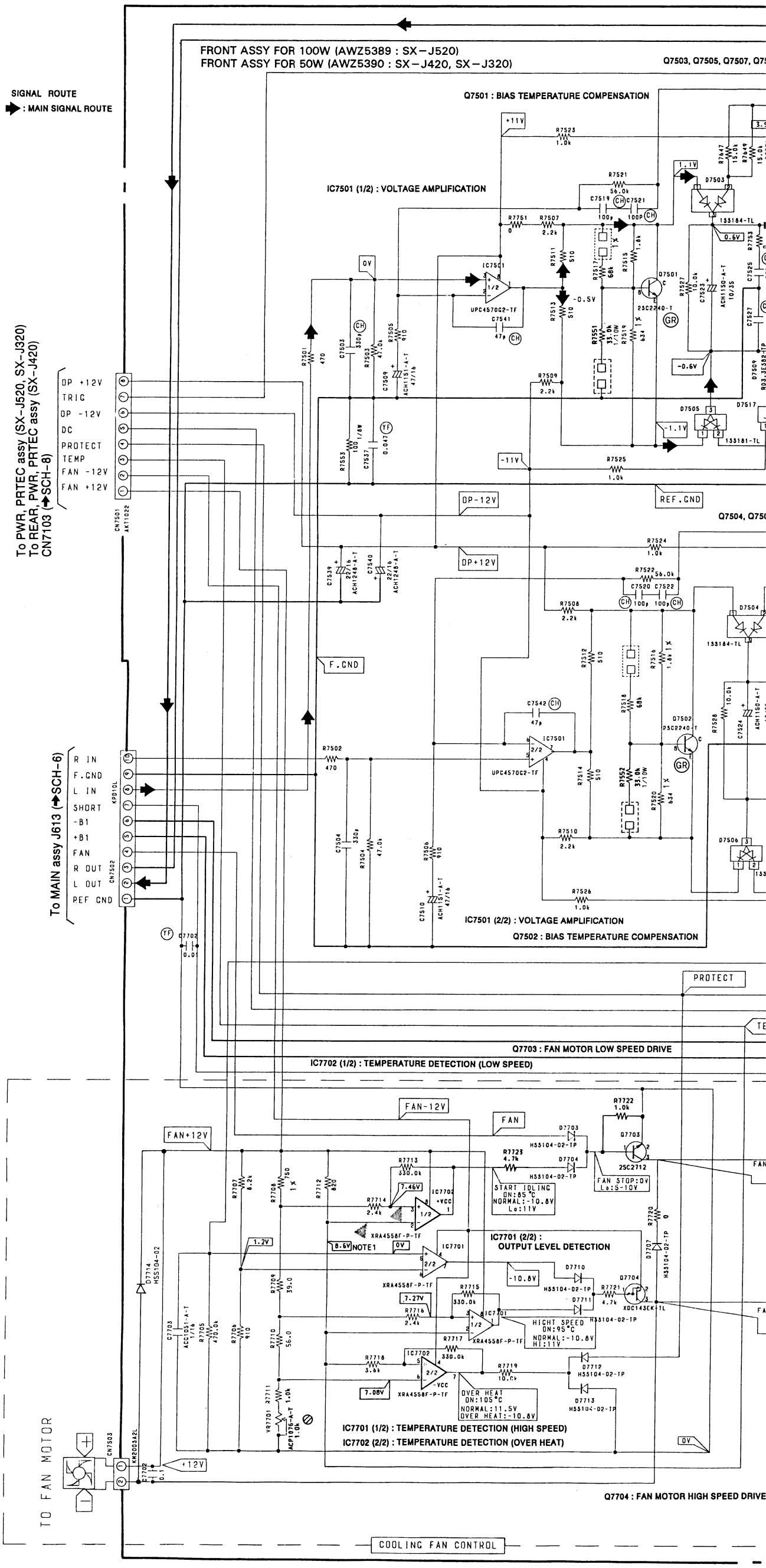
	DIRECT	
Pin No.	ON	OFF
5,6	H	L
12,13	L	H

H:+12V
L:-12V

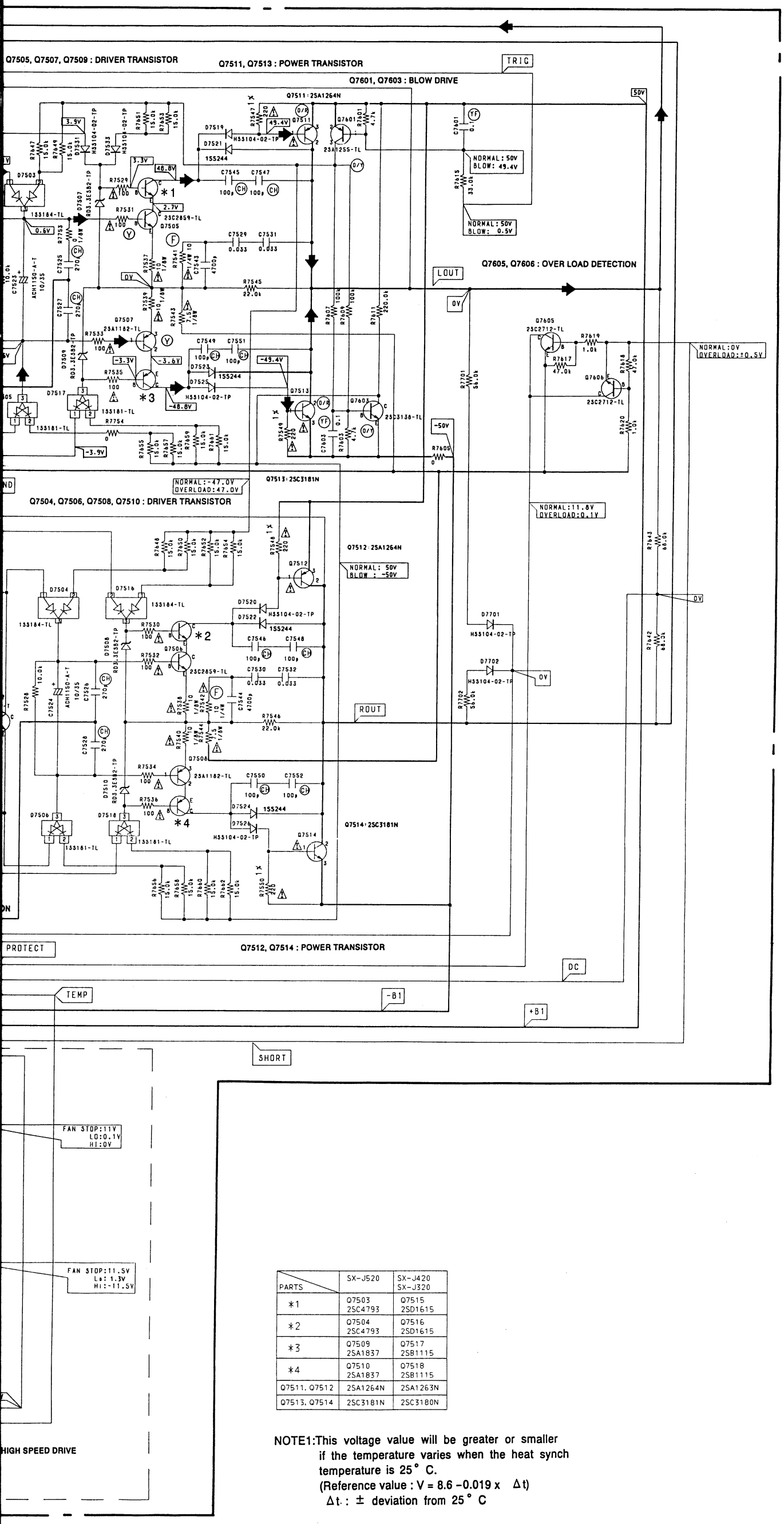
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. ICP-N75, MFD BY ROHM CO .,LTD. FOR IC651 TO IC658.

	SX-J520	SX-J420		SX-J320	
	HE, HB, HEWZI	HE, HB, HEWZI	HL, SD	HE, HB, HEWZI	HL, SD
D617	D5SB20F	D3SBA20 (A)	D3SBA20 (A)	D3SBA20 (A)	D3SBA20 (A)
R617, R618	1.3k	1.3k	22k	1.3k	22k
R623, R624	510k	510k	0	510k	0
R660	220 (1/2W)	220 (1/2W)	120 (1W)	220 (1/2W)	220 (1/2W)
R662	1.8k (1/2W)	1.2k (1/2W)	1.2k (1/2W)	1.2k (1/2W)	1.2k (1/2W)
C627, C628	ACH1137	ACH1145	ACH1145	ACH1145	ACH1145
C632	1000/35	3300/35	3300/35	1000/35	1000/35

2.6 FRONT ASSY FOR 100W
FRONT ASSY FOR 50W



SCH-7 FRONT ASSY FOR 100W
FRONT ASSY FOR 50W



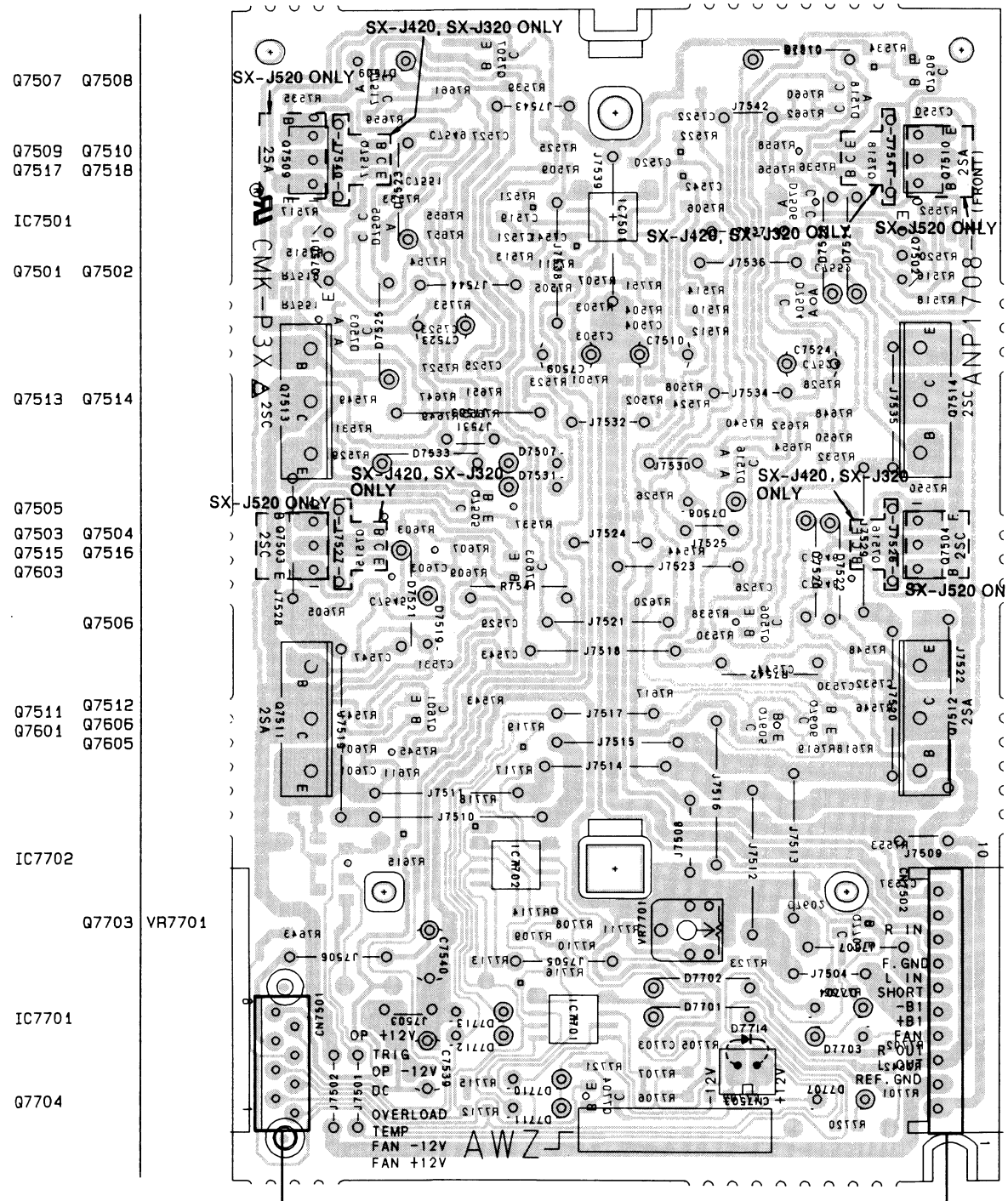
PARTS	SX-J520	SX-J420 SX-J320
＊1	Q7503 2SC4793	Q7515 2SD1615
＊2	Q7504 2SC4793	Q7516 2SD1615
＊3	Q7509 2SA1837	Q7517 2SB1115
＊4	Q7510 2SA1837	Q7518 2SB1115
Q7511, Q7512	2SA1264N	2SA1263N
Q7513, Q7514	2SC3181N	2SC3180N

NOTE1: This voltage value will be greater or smaller if the temperature varies when the heat synch temperature is 25° C.
(Reference value : V = 8.6 −0.019 x Δt)
Δt : ± deviation from 25° C

FRONT ASSY FOR 100W
FRONT ASSY FOR 50W

PCB – 6

FRONT ASSY FOR 100W (SX – J520)
FRONT ASSY FOR 50W (SX – J420, SX – J320)

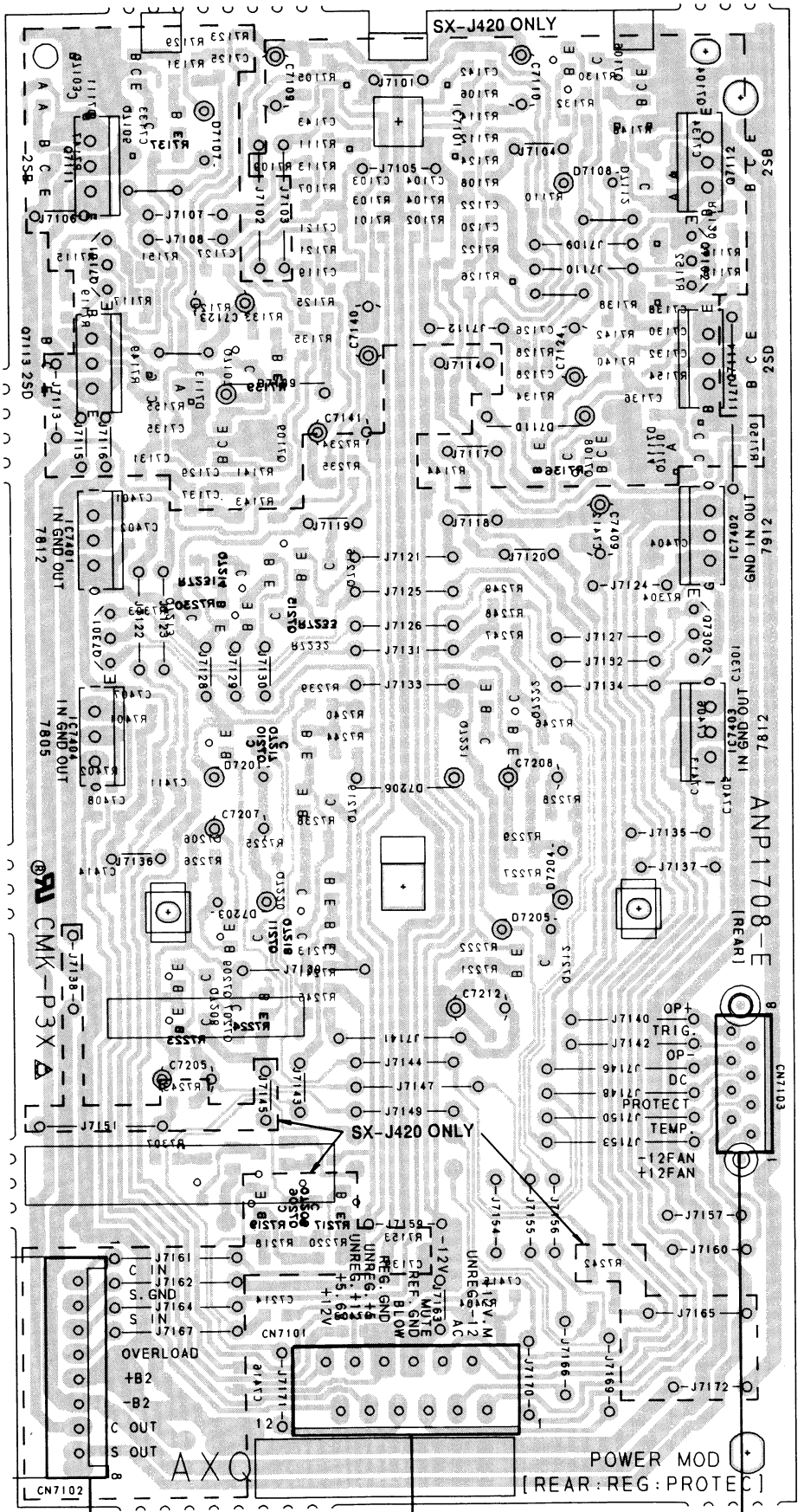


● This diagram is viewed from the mounted parts side.

2.7 PWR, PRTEC ASSY

REAR, PWR, PRTEC ASSY

PWR, PRTEC assy (SX-J520, SX-J320)
REAR, PWR, PRTEC assy (SX-J420)



From MAIN assy J616

To MAIN assy J615

To FRONT assy FOR 100W (SX-J520)
To FRONT assy FOR 50W (SX-J420, SX-J320)
CN7501

- This diagram is viewed from the mounted parts side.

PWR, PRTEC assy
(AWZ5392 : SX-J520, SX-J320)
REAR, PWR, PRTEC assy
(AWZ5391 : SX-J420)

SIGNAL ROUTE
: REAR SIGNAL ROUTE
: CENTER SIGNAL ROUTE

SX-J420 ONLY

Q7101 : BIAS TEMPERATURE COMPENSATION
IC7101 (1/2) : VOLTAGE AMPLIFICATION

Q7111, Q7113 : POWER TRANSISTOR

Q7103, Q7105, Q7107, Q7109 : DRIVER TRANSISTOR

Q7217-Q7220, Q7211 : BLOW DRIVE

Q7205, Q7206 : OVER LOAD DETECTION

SX-J420 ONLY

SX-J420 ONLY

From MAIN assy J616 (➡SCH-6)
+12V
+5.6V
UNREG+12
UNREG+5
REG.GND
BLOW
REF.GND
MUTE
-12V
AC
UNREG-12
+12V.M.

To MAIN assy J615 (➡SCH-6)
S OUT
C OUT
-B2
+B2
OVERLOAD
S IN
S.GND
C IN

CENTER POWER AMP

Q7104, Q7106, Q7108, Q7110 : DRIVER TRANSISTOR

Q7112, Q7114 : POWER TRANSISTOR

IC7101 (2/2) : VOLTAGE AMPLIFICATION

SX-J420 ONLY

SURROUND POWER AMP

Q7102 : BIAS TEMPERATURE COMPENSATION

Q7207-Q7210, Q7212, Q7221, Q7222 : MUTE DRIVE

To FRONT assy FOR 100W (SX-J520)
To FRONT assy FOR 50W (SX-J420, SX-J320)
CN7501 (➡SCH-7)
OP+
TRIG.
OP-
DC
PROTECT
TEMP.
-12FAN
+12FAN

IC7401 : +12V 3-TERMINAL REGULATOR

IC7403 : +12V 3-TERMINAL REGULATOR (MOTOR SYSTEM)

Q7213-Q7216 : VOLTAGE AMPLIFICATION STAGE OP AMP. +B SW

Q7301, Q7302 : FAN MOTOR TEMPERATURE SENSOR

IC7404 : +5V 3-TERMINAL REGULATOR

IC7402 : -12V 3-TERMINAL REGULATOR

REGULATOR

HEAT SINK TEMP SENSOR

NOTE1:This voltage value will be greater or smaller if the temperature varies when the heat synch temperature is 25° C.
(Reference value : V = 8.6 -0.019 x Δt)
Δt : ± deviation from 25° C

2.8 FRONT ASSY

FRONT assy (AWZ5203 : SX-J520, SX-J420)
(AWZ5204 : SX-J320)

SCH-9

To MAIN assy CN617 (➡SCH-3)

To MAIN assy CN604 (➡SCH-6)

To TACT SW assy J1102 (➡SCH-10)

SX-J520, SX-J420 ONLY

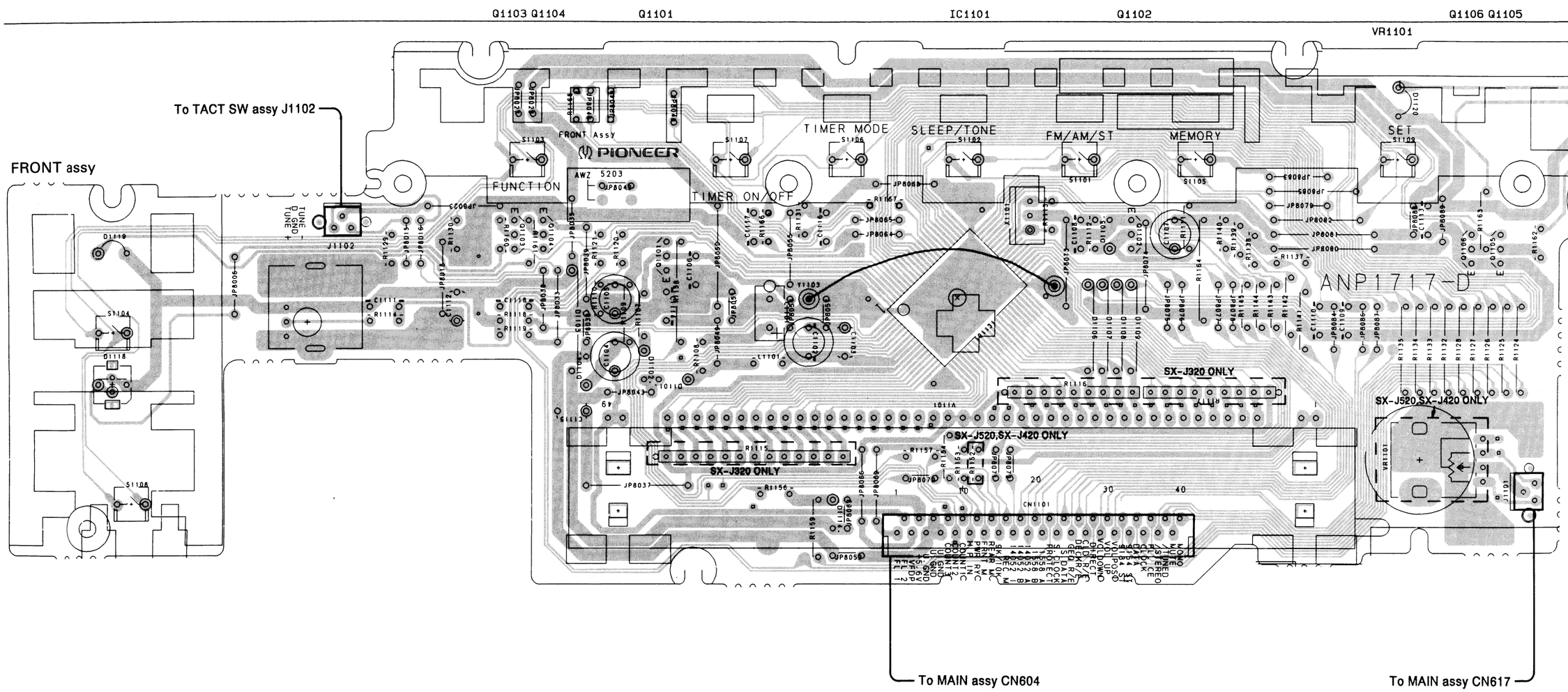
BALANCE VOLUME

SX-J320 ONLY

SX-J520, SX-J420 ONLY

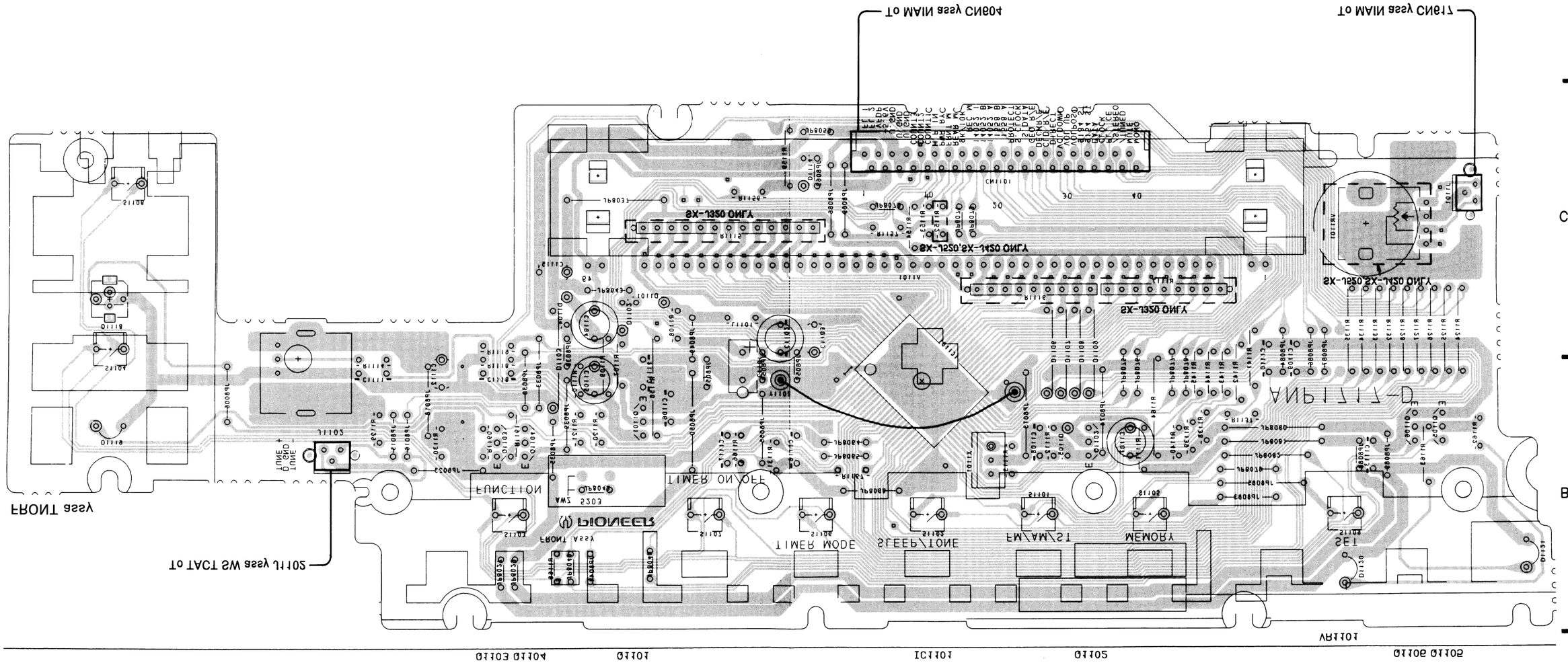
IC1101 : SYSTEM CONTROL MICROCOMPUTER

SCH-9 FRONT ASSY



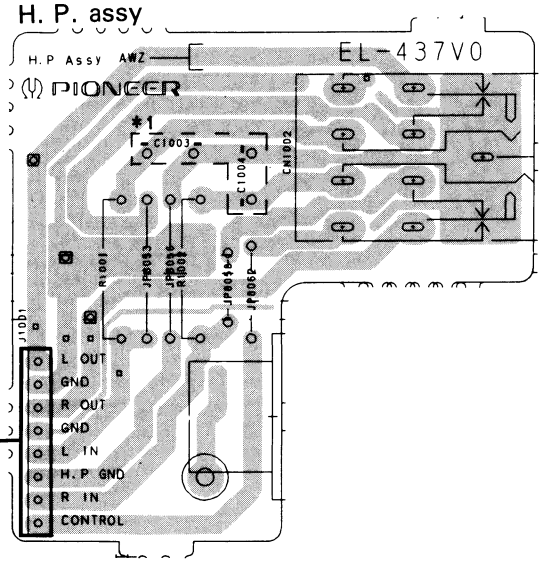
- This diagram is viewed from the mounted parts side.

● This diagram is viewed from the foil side.



2.9 V SEL ASSY, H. P. ASSY, SP ASSY, TACT SW ASSY AND SW ASSY

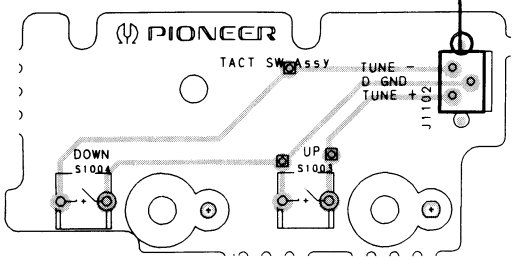
H. P. assy



To MAIN assy CN608

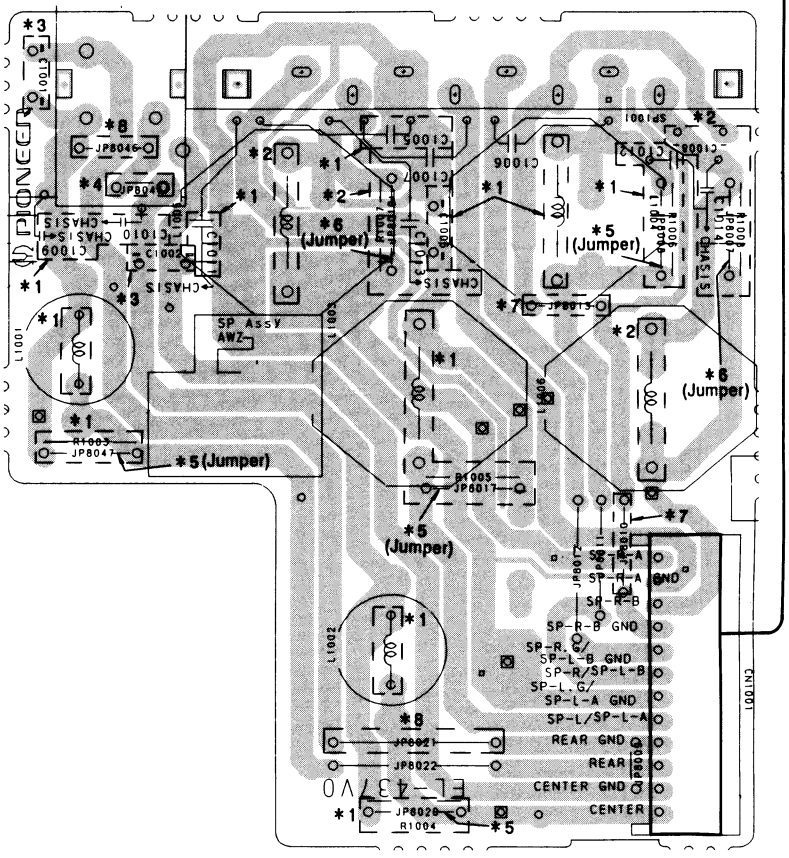
To FRONT assy J1102

TACT SW assy



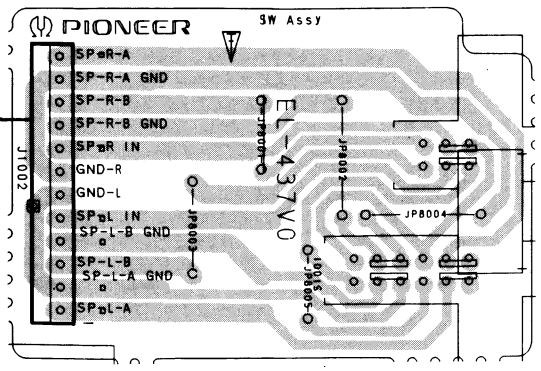
From MAIN assy CN605

SP assy



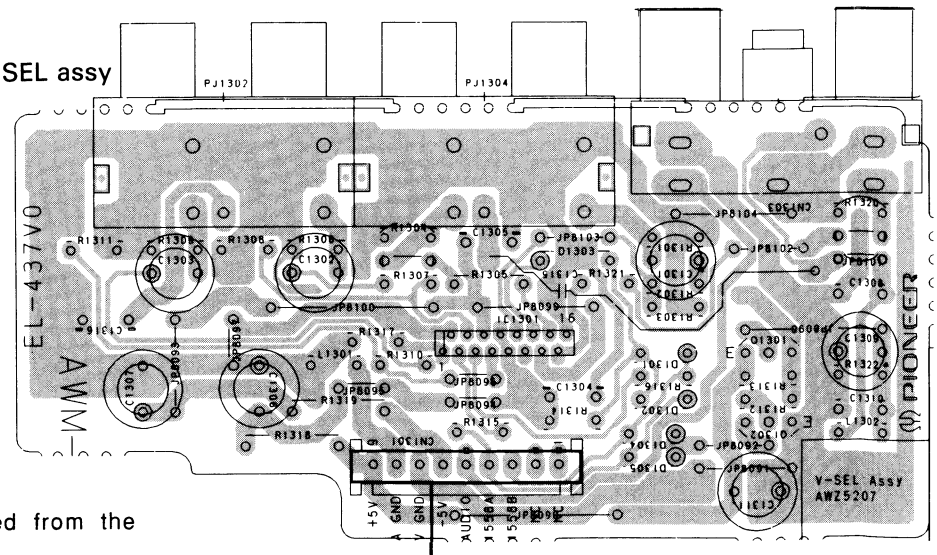
To MAIN assy CN603

SW assy



IC1301 Q1301 Q1302

V SEL assy



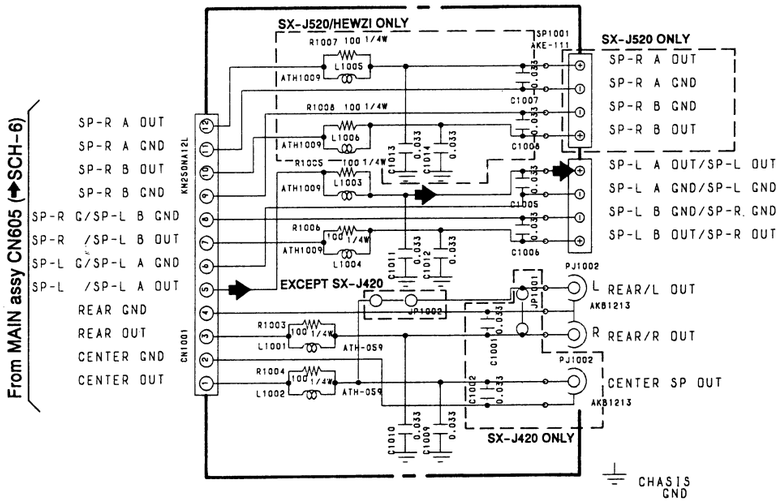
To FUNC assy CN903

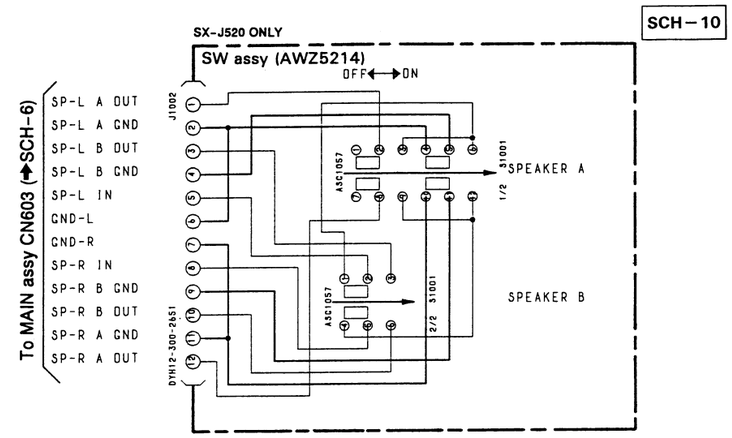
*1: HEWZI TYPE ONLY
*2: SX-J520/HEWZI ONLY
*3: SX-J420/HEWZI ONLY
*4: EXCEPT SX-J420
*5: EXCEPT HEWZI TYPE
*6: SX-J520/HE,HB ONLY
*7: SX-J520 ONLY
*8: SX-J420 ONLY

- This diagram is viewed from the mounted parts side.

SP assy
(AWZ5261 : SX−J520/HE, HB)
(AWZ5262 : SX−J520/HEWZI)
(AWZ5210 : SX−J420/HE, HB, HL, SD)
(AWZ5211 : SX−J420/HEWZI)
(AWZ5212 : SX−J320/HE, HB, HL, SD)
(AWZ5213 : SX−J320/HEWZI)

	R1003–R1008	C1001–C1014	L1001–L1006
HEWZI TYPE	USED	USED	USED
EXCEPT HEWZI	JP	NOT USED	NOT USED

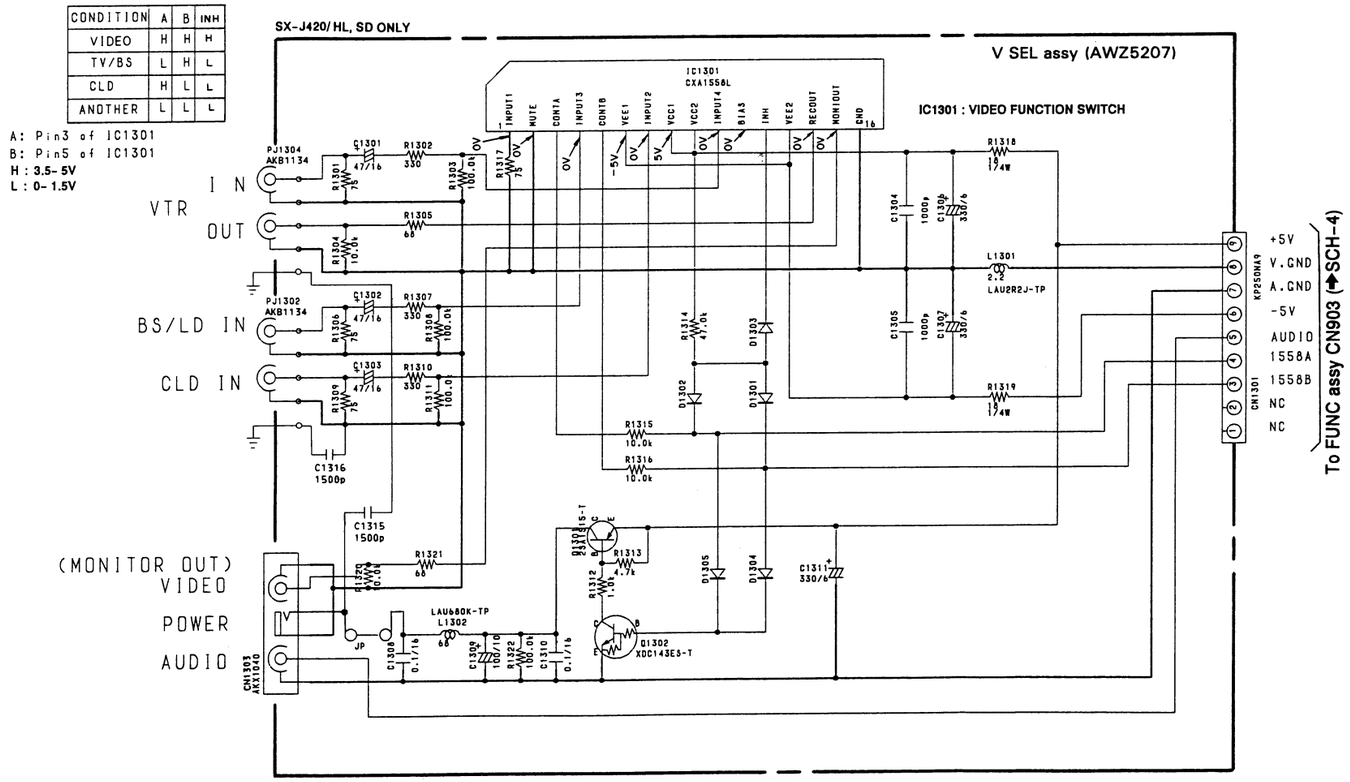


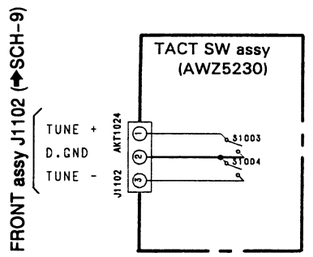


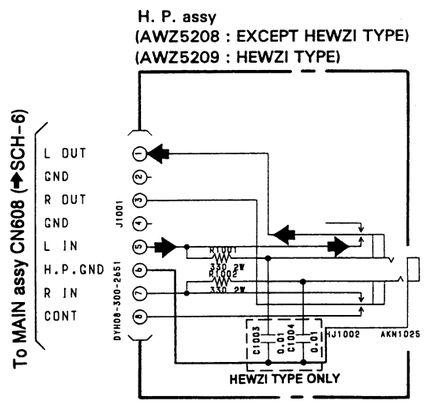
SIGNAL ROUTE
➡ : MAIN SIGNAL ROUTE

CONDITION	A	B	INH
VIDEO	H	H	H
TV/BS	L	H	L
CLD	H	L	L
ANOTHER	L	L	L

A: Pin3 of IC1301
B: Pin5 of IC1301
H : 3.5- 5V
L : 0- 1.5V







3. PCB PARTS LIST

NOTES :

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω → 56 × 10¹ → 561 ····· RD1/8PM 5 6 1 J
47kΩ → 47 × 10³ → 473 ····· RD1/4PS 4 7 3 J
0.5Ω → 0R5 ····· RN2H 0 R 5 K
1Ω → 010 ····· RS1P 0 1 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal ilm resistors).

5.62kΩ → 562 × 10¹ → 5621 ····· RM1/4PC 5 6 2 1 F

Mark	No.	Description	Parts No.
LIST OF ASSEMBLIES			
	AF ASSY		AWK1756
	├─MAIN ASSY		AWZ5192
	├─FUNC ASSY		AWZ5195
	├─VOLUME ASSY		AWZ5198
NSP	├─SUPPORT ASSY		AWZ5291
NSP	└─TRANS ASSY		AWZ5593
	DISP ASSY		AWM1492
	├─FRONT ASSY		AWZ5203
NSP	├─H.P. ASSY		AWZ5208
NSP	├─SW ASSY		AWZ5214
NSP	├─TACT SW ASSY		AWZ5230
NSP	└─SP ASSY		AWZ5261
	FM/AM TUNER MODULE		AXQ1013
	POWER MODULE (F100)		AXQ1017
	├─FRONT ASSY FOR 100W		AWZ5389
	└─PWR, PRTEC ASSY		AWZ5392
MAIN ASSY			
SEMICONDUCTORS			
	IC604		LC4966
	IC601		MC14052BF
	IC608		TC9184P
	IC602, IC603, IC610		XRA4558F−P
	Q615, Q619, Q620		2SA1162
	Q611		2SB1274
	Q612		2SC2458
	Q616, Q618		2SC2712
	Q601, Q602		2SK246
	Q603, Q608, Q613		XDA124EK
	Q606		XDA143EK
	Q604, Q605, Q607, Q609, Q614		XDC124EK
	Q621		XDC143EK
	D607, D620		1SS184
	D632, D634, D636−D639		1SS226
	D619		D3SBA20 (A)
	D617		D5SB20F
	D605, D606, D614, D621		HSS104−02
	D623−D629, D640, D641		HSS104−02
	D616		RD10ESB
	D615		RD30ESB
	D609, D610		RD5.1EB
	D603, D604		RD8.2ESB2
	D611−D613, D622, D630, D631		S5688G

Mark	No.	Description	Parts No.
COILS AND FILTERS			
⚠	L601		ATF1006
TRANSFORMERS			
⚠	T601		ATT1239
RELAYS			
	RY602		ASR1035
⚠	RY601		ASR1036
CAPACITORS			
⚠	C651, C669 (0.01/400V)		ACG1003
	C627, C628 (6800/63V)		ACH1137
	C695, C696		CCSQCH101J50
	C639, C640, C643, C644		CCSQCH391J50
	C607, C608		CCSQCH560J50
	C647		CEANP4R7M50
	C605, C606, C697		CEAS010M50
	C657, C658		CEAS101M10
	C646		CEAS101M50
	C634		CEAS102M25
	C632		CEAS102M35
	C650		CEAS331M50
	C631		CEAS332M35
	C671		CEAS3R3M50
	C621, C622		CEAS470M35
	C648, C649		CEAS470M50
	C617, C618		CFTXA823J50
	C641, C642		CKSQYB102K50
	C663, C664		CKSQYB103K50
	C698, C699		CKSQYB152K50
	C613−C616		CKSQYB153K50
	C619, C620		CKSQYB332K50
	C609, C610		CKSQYB473K50
	C689−C693		CKSQYB561K50
	C676−C679		CKSQYF104Z50
	C633		CQMA103J50
	C672, C673		CQMA104J50
	C674, C675		CQMA223J50
RESISTORS			
	R662		RD1/2PM182J
	R660, R661		RD1/2PM221J
	R706		RD1/2PM472J
	R665		RD1/2PM622J
	R633, R634		RD1/4PM151J

Mark	No.	Description	Parts No.
	R667		RD1/4PM470J
	R679, R703		RD1/8PM102J
	R666		RD1/8PM203J
	R693−R695, R699−R701		RD1/8PM222J
	R1410		RD1/8PM332J
	R625, R626, R635, R636		RD1/8PM471J
	R1407, R1408		RD1/8PM472J
	R656		RD1/8PM623J
	R664		RFA1/4PS4R7J
⚠	R651, R652		RS3LMFR22J
	Other Resistors		RS1/10S□□□J
OTHERS			
	SOCKET (15P)		AKP1049
	CN612 SOCKET (9P)		AKP1072
	CN604 40P SOCKET		AKP1085
	SOCKET (18P)		AKP1131
	CN603 CONNECTOR (12P)		KPC12
	CN608 JUMPER CONNECTOR		KPC8
	CN617 CONNECTOR (3P)		KPE3
FUNC ASSY			
SEMICONDUCTORS			
	IC901		MC14052BF
	IC902		MC14066BF
	IC903		UPC4570G2
	Q901		2SA1162
	Q907		2SC2878
	Q902−Q906		XDA124EK
	D902		1SS181
	D901, D903, D904		1SS252
CAPACITORS			
	C940		CEAS100M50
	C935, C936		CEAS101M10
	C909, C910		CEAS470M10
	C903, C904		CEAS4R7M50
	C939		CKSQYB103K50
	C905, C906		CKSQYB152K50
	C907, C908		CKSQYB562K50
RESISTORS			
⚠	R949−R952		RD1/2PMFL100J
	R918		RD1/8PM103J
	R904, R955, R956		RD1/8PM222J
	Other Resistors		RS1/10S□□□J
OTHERS			
	PIN JACK (6P)		AKB1121
	CN905 PIN JACK (6P)		AKB1129
	JACK		AKN−203
	SOCKET 9−P		AKP−076
VOLUME ASSY			
SEMICONDUCTORS			
	IC801		TA8409S
	IC802		UPC4570G2
	Q801, Q802		2SC3327
	Q803		XDA124ES
COILS AND FILTERS			
	L801		LAU221K
CAPACITORS			
	C819, C820		CCSQCH470J50
	C828		CEAS101M25
	C807, C808		CEXA470M25
	C801−C804		CEYA100M50
	C805, C806		CEYA2R2M50

Mark	No.	Description	Parts No.
	C831, C832		CKSQYB473K50
	C809, C810		CKSQYF104Z50
	C827		CKSQYF473Z50
RESISTORS			
	R835, R836		RD1/8PM101J
	R803, R804		RD1/8PM104J
	R817		RD1/8PM272J
	R818		RD1/8PM472J
	VR801 (100k−4B*2, 50k−6B		ACX1067
	Other Resistors		RS1/10S□□□J
SUPPORT ASSY			
	No service part		
TRANS ASSY			
SEMICONDUCTORS			
⚠	IC651−IC658		ICP−N75
FRONT ASSY			
SEMICONDUCTORS			
	IC1101		PDG109A
	Q1101		2SC2458
	Q1102−Q1106		XDC143ES
	D1118		AEL1065
	D1119		AEL1128
	D1120, D1121		AEL1144
	D1101−D1104, D1106−D1109, D1114		HSS104−02
	D1105		RD6.2ESB
COILS AND FILTERS			
	L1101		LAU220J
SWITCHES			
	S1101−S1109		ASG1034
CAPACITORS			
	C1101		ACH1135
	C1106, C1111		CCCSL101J50
	C1104, C1115		CEAS010M50
	C1107		CEAS100M50
	C1105		CEAS2R2M50
	C1103, C1112		CEAS470M16
	C1108−C1110		CFTXA103J50
	C1102		CFTXA473J50
	C1116		CKCYB152K50
	C1113		CKCYB222K50
	C1114		CKDYB102K50
	C1118		CKMYB102K50
	C1117		CKMYB152K50
RESISTORS			
	VR1101 (100kB)		ACS1102
	Other Resistors		RD1/8PM□□□J
OTHERS			
	X1101 (8.00MHz)		ASS1015
	V1101		AAV1186
	CN1101 40P SOCKET		AKP1087
	REMOTE RECEIVER UNIT		AXX1033
H.P. ASSY			
RESISTORS			
	R1001, R1002		RS2LMF331J
OTHERS			
	CN1002 JACK		AKN1025

Mark	No.	Description	Parts No.
SW ASSY			
SWITCH			
	S1001		ASG1057
TACT SW ASSY			
SWITCHES			
	S1003, S1004		ASG1034
SP ASSY			
OTHERS			
	PIN JACK (2P)		AKB1126
	SPEAKER TERMINAL 8−P		AKE−111
FM/AM TUNER MODULE/HE			
SEMICONDUCTORS			
	IC6201		LA1836M
	IC6202		LM7001J
	Q6102		2SC2223
	Q6203		2SC2235
	Q6202		2SC2712
	Q6103, Q6214		2SC2714
	Q6201		2SK208
	Q6104		2SK302
	Q6101		3SK194
	Q6204		XDA124EK
	Q6217		XDC124EK
	D6101, D6102		1T33
COILS AND FILTERS			
	L6104		ATC1003
	L6101		ATC1020
	L6102		ATC1021
	T6101		ATE−063
	L6207		ATE1013
	F6203, F6204 (SFE10.7MS3G)		ATF−119
	F6101		ATF−155
	F6202 (450KHz)		ATF1145
	L6103		ATH1043
	L6202, L6203, L6208		LCTA2R2J3225
CAPACITORS			
	C6234, C6236, C6270		ACG1051
	C6235		ACG1052
	C6107		CCSCH010C50
	C6229		CCSCH821J50
	C6110		CCSQCH020C50
	C6101		CCSQCH050C50
	C6108, C6203, C6269		CCSQCH101J50
	C6111, C6116, C6208, C6221, C6222		CCSQCH150J50
	C6115		CCSQCH330J50
	C6114		CCSQRH080D50
	C6113		CCSQRH180J50
	C6105		CCSQTH150J50
	C6261		CEAS010M50
	C6224, C6231, C6233, C6246, C6262		CEAS100M50
	C6216, C6217		CEAS330M16
	C6219		CEAS470M10
	C6243−C6245		CEAS470M16
	C6227		CEAS470M25
	C6238		CEJA100M16
	C6249, C6250		CEJA4R7M35
	C6215		CFTXA103J50
	C6214		CFTXA224J50
	C6103, C6106, C6112, C6204		CKSQYB102K50
	C6102, C6109, C6117, C6210, C6264		CKSQYB103K50
	C6213		CKSQYB223K50
	C6230		CKSQYB273K50
	C6228		CKSQYB472K50
	C6209, C6237, C6265, C6267		CKSQYB473K50
	C6252		CKSQYB822K50
	C6212, C6218		CKSQYF103Z50
	C6220, C6226, C6239, C6242, C6255		CKSQYF223Z50
	C6225, C6241, C6266		CKSQYF473Z50
	C6232		CKSYB273K50
	C6251		CKSYB822K50
	C6223		CKSYF103Z50
	C6263		CKSYF473Z50
RESISTORS			
	R6299, R6300		RD1/8PM102J
	R6113, R6116, R6118, R6268−R6271		RS1/8S000J
	R6275, R6276, R6278, R6283, R6284		RS1/8S000J
	R6290, R6293, R6294, R6297		RS1/8S000J
	R6243, R6244		RS1/8S101J
	R6211		RS1/8S103J
	R6237		RS1/8S182J
	R6209		RS1/8S221J
	R6239		RS1/8S332J
	R6101		RS1/8S470J
	VR6201		ACP1055
	VR6202		VRTB6VS223
	Other Resistors		RS1/10S□□□J
OTHERS			
	X6203 (7.200MHz)		ASS1042
	X6201 (456KHz)		ASS1066
	X6202 (450KHz)		ATF1027
	BN6201 2P TERMINAL WITH PAL		AKA1017
	AM RF TUNING BLOCK		AXX1041
POWER MODULE (F100)			
SEMICONDUCTORS			
	IC7404		MC7805CT
	IC7401, IC7403		MC7812CT
	IC7402		NJM7912A
⚠	Q7511, Q7512		2SA1264N
	Q7509, Q7510		2SA1837
⚠	Q7513, Q7514		2SC3181N
	Q7503, Q7504		2SC4793
FRONT ASSY FOR 100W			
SEMICONDUCTORS			
	IC7501		UPC4570G2
	IC7701, IC7702		XRA4558F−P
	Q7507, Q7508		2SA1182
	Q7601		2SA1255
	Q7501, Q7502		2SC2240
	Q7605, Q7606, Q7703		2SC2712
	Q7505, Q7506		2SC2859
	Q7603		2SC3138
	Q7704		XDC143EK
	D7505, D7506, D7517, D7518		1SS181

Mark	No.	Description	Parts No.
	D7503, D7504, D7516		1SS184
	D7521−D7524		1SS244
	D7519, D7520, D7525, D7526, D7531		HSS104−02
	D7533, D7701−D7704, D7707		HSS104−02
	D7710−D7714		HSS104−02
	D7507−D7510		RD3.3ESB2
CAPACITORS			
	C7703		ACG1051
	C7523, C7524		ACH1150
	C7509, C7510		ACH1151
	C7539, C7540		ACH1248
	C7519−C7522, C7545−C7552		CCSQCH101J50
	C7525−C7528		CCSQCH271J50
	C7503, C7504		CCSQCH331J50
	C7541, C7542		CCSQCH470J50
	C7529−C7532		CKSQYB333K50
	C7543, C7544		CKSQYB472K50
	C7602		CKSQYF103Z50
	C7601, C7603, C7702		CKSQYF104Z50
	C7537		CKSQYF473Z50
RESISTORS			
	R7519, R7520		ACN1106
	R7515, R7516		ACN1107
	R7541, R7542		RD1/4PMF100J
	R7547−R7550		RS1/10S2200F
	R7709		RS1/10S39R0F
	R7710		RS1/10S56R0F
	R7708		RS1/10S7500F
	R7753		RS1/8S000J
	R7537−R7540		RS1/8S100J
	R7553		RS1/8S101J
	R7543, R7544		RS1/8S7R5J
	VR7701		ACP1076
	Other Resistors		RS1/10S□□□J

PWR, PRTEC ASSY

Mark	No.	Description	Parts No.
SEMICONDUCTORS			
	Q7208, Q7215, Q7219		2SA1162
	Q7213		2SA1182
	Q7301, Q7302		2SC1815
	Q7207, Q7209, Q7212, Q7214, Q7218		2SC2712
	Q7220, Q7221		2SC2712
	Q7216		2SC2859
	Q7211, Q7217		2SC3138
	Q7210, Q7222		XDA124EK
	D7201, D7205		HSS104−02
	D7204, D7206		HZS6C3L
	D7203		HZS9A2L
CAPACITORS			
	C7402, C7406, C7408		ACG1050
	C7401, C7405, C7407		ACG1053
	C7212		ACH1056
	C7409		ACH1150
	C7205, C7207, C7208		ACH1151
	C7301		CKSQYB332K50
	C7213, C7214		CKSQYF103Z50
	C7206, C7404		CKSQYF104Z50
	C7801, C7802		CKDYX473M25

Mark	No.	Description	Parts No.
RESISTORS			
	R7403, R7404		ACN1104
	R7303		RS1/10S1002F
	R7304		RS1/10S8200F
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN7101	CONNECTOR (12P)	KPE12

4. ADJUSTMENTS

4.1 TUNER SECTION

■ FM Tuner Section

- Set the mode selector to FM BAND.
- Connect the wiring as shown in Fig. 4−1−1.

Step No.	Adjustment Title	FM SG (1kHz, ±75kHz dev.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (MHz)	Level (dBμV)			
1	Center Adjustment	98 Non modulation	80 or more	98MHz	L6207	Adjust so that the DC voltage between Pin 4 and Pin 28 of IC6201 becomes 0V±50mV.
2	Front End Sencitivity	98 (106)	0−30	98MHz	L6104 (L6105) T6101 (L6102)	After adjusting L6104 (L6105) so that the DC voltage of the Pin 12 of IC6201 (S-meter) becomes at maximum level, adjust T6101 (L6102).
3	TUNED IND. Lighting Level	98 (106)	15±2	98MHz	VR6201	Adjust so that the indicators of TUNED IND. start to light up.

Notes:

- *Before adjusting, make sure there is no gap between L6101 and L6102 and between L6103 and L6104. If there is a gap between them, bring them into contact with each other first, and then make adjustments.*
- *Make indicator adjustments in order of AM → FM.*
- *( ): SX−J520/HEWZI, SX−J420/HEWZI and SX−J320/HEWZI only.*

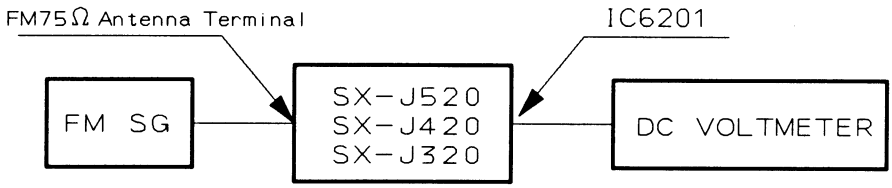


Fig. 4−1−1 FM Adjustment Connection Diagram

■ AM Tuner Section

- Set the mode selector to AM BAND.
- Connect the wiring as shown in Fig. 4−1−2.

Step No.	Adjustment Title	AM SG (400Hz, 30% Mod.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (kHz)	Level (dBμV/m)			
1	TUNED IND. Lighting Level	999	47±2	999kHz	VR6202	After adjusting VR6202 so that it is illuminated when the ANT. input level is within 45±3 dBμV/m, confirm that it is extinguished at or below 40dBμV/m.

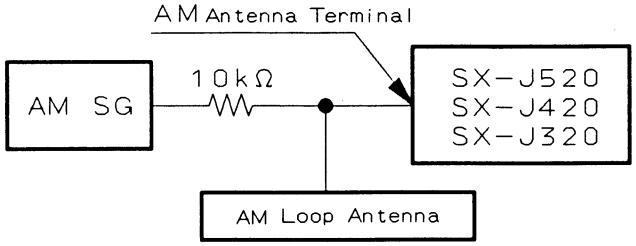


Fig. 4−1−2 AM (MW) Adjustment Connection Diagram

FM/AM TUNER MODULE

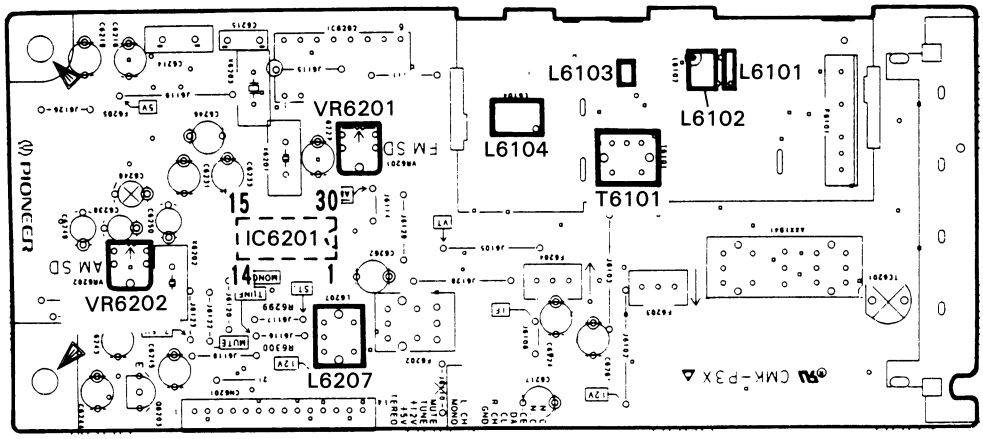


Fig. 4−1−3 Adjustment Points

4.2 POWER AMP MODULE SECTION (Refer to Fig. 4−2−1.)

1. Handling Precautions

- Since the heat sink and transistor metallic parts are connected to output terminals, make sure they do not contact the GND (chassis) or other circuits.
- Since there are residual high voltage lines +B1 (FRONT ASSY FOR 100W and FRONT ASSY FOR 50W) and ±B2 (REAR, PWR, PRTEC ASSY) even when the power is OFF, caution should be exercised. (If necessary, the voltage should be discharged.
- When handling the Power Amp Module Assy, make sure you do not touch the fan motor blade.

2. Adjustment and Confirmation of Idle Current

- Basically, the idle current needs to be confirmed when replacing a power transistor, driver transistor, or bias transistor, or when the FRONT ASSY FOR 100W, FRONT ASSY FOR 50W or REAR, PWR, PRTEC ASSY have been replaced.
- Make sure the heat sink has cooled sufficiently before measuring the idle current. (Temperature should be the same as room temperature; 25°C is ideal, if possible.)
- Idle current stipulated value: 3−50mA.

■ Front Amp Side (FRONT ASSY FOR 100W and FRONT ASSY FOR 50W)

Step	Measurement	Item	Remarks
1	Lch side	Short both sides of C7123 and C7124 on the Rear Amp side.	Do not operate the Rear Amp side.
2		Insert a resistor (0.22Ω, 3W or more) in series in the connector CN7502 +B1 (or −B1) line (terminal No. 5 or 6). (Refer to Fig. 4−2−2.)	For measuring voltage at both sides of resistor
3		Short both sides of C7524.	Do not operate Rch side.
4		Turn the power ON, wait 6 seconds, and then measure the resistance voltage in Step 2.	Lch Idle current I=V/0.22 (Ω)
5	Rch side	● Same as Steps 1 and 2 above. ● Short both sides of C7523.	Do not operate Lch side.
6		Turn the power ON under the above conditions, and after 6 seconds measure the resistance voltage in Step 2.	
7	——	If the measured idle current is greater than 50mA, perform the following procedure.	
8	Lch side	Short between the Point A pattern in Fig. 4−2−3 using solder.	Connect R7517 to R7515 in a parallel circuit.
9	Rch side	Short between the Point B pattern in Fig. 4−2−3 using solder.	Connect R7518 to R7516 in a parallel circuit.
10	——	After performing Steps 8 and 9, remeasure the idle current and confirm that it is below 50mA.	

NOTE: 1. If the idle current is below 3mA, support a resistor (33kΩ) between the emitter and the Q7501 (Lch) and Q7502 (Rch) bias transistor base, and confirm that the idle current is within 3−50mA.

2. The above step 1 is applied to AWZ5391 of SX−J420 only.

Step	Measurement	Item	Remarks
11	——	If the idle current is below 3mA, perform the following procedure.	
12	Lch side	Short between the Point C pattern in Fig. 4−2−3 using solder.	Connect R7551 to R7519 in a parallel circuit.
13	Rch side	Short between the Point D pattern in Fig. 4−2−3 using solder.	Connect R7552 to R7520 in a parallel circuit.
14	——	After performing Step C and D, remeasure the idle current and confirm that it is greater than 3mA (within 3−50mA).	

NOTE: 1. If the idle current is below 3mA, support a resistor (33kΩ) between the emitter and the Q7501 (Lch) and Q7502 (Rch) bias transistor base, and confirm that the idle current is within 3−50mA.
2. The above step 1 is applied to AWZ5391 of SX−J420 only.

■ Rear Amp Side (REAR, PWR, PRTEC ASSY) ····· Applied to SX−J420 Only.

Step	Measurement	Item	Remarks
1	Center amp side	Short both sides of C7523 and C7524 on the Front Amp side.	Do not operate the Front Amp side.
2		Insert a resistor (0.22Ω, 2W or more) in series in the connector CN7102 +B2 (or −B2) line (terminal No. 5 or 6). (Refer to Fig. 4−2−4.)	For measuring voltage at both sides of resistor
3		Short both sides of C7124 on the Surround Amp side.	Do not operate the Surround Amp.
4		Turn the power ON, wait 6 seconds, and then measure the resistance voltage in Step 2.	Idle current: I = V/0.22 (Ω)
5	Surround amp side	● Same as Steps 1 and 2 above. ● Short both sides of C7123 on Surround Amp side.	Do not operate Surround Amp.
6		Turn the power ON under the conditions in Steps 1 and 2, and after 6 seconds measure the resistance voltage in Step 2.	
7	——	If the measured idle current is greater than 50mA, perform the following procedure.	
8	Center amp side	Short between the Point E pattern in Fig. 4−2−5 using solder.	Connect R7117 to R7115 in a parallel circuit.
9	Surround amp side	Short between the Point F pattern in Fig. 4−2−5 using solder.	Connect R7118 to R7116 in a parallel circuit.
10	——	After performing Steps 8 and 9, remeasure the idle current and confirm that it is below 50mA.	
11	——	If the idle current is below 3mA, perform the following procedure.	
12	Center amp side	Short between the Point G pattern in Fig. 4−2−5 using solder.	Connect R7151 to R7119 in a parallel circuit.
13	Surround amp side	Short between the Point H pattern in Fig. 4−2−5 using solder.	Connect R7152 to R7120 in a parallel circuit.
14	——	After performing Step G and H, remeasure the idle current and confirm that it is greater than 3mA (within 3−50mA).	

NOTE:
If the idle current is below 3mA, support a resistor (15kΩ) between the emitter and the Q7101 (Center-ch) and Q7102 (Surround-ch) base, and confirm that the idle current is within 3−50mA.

3. Adjusting the Operating Temperature Setting of the Fan Motor (VR7701)

This adjustment is necessary when IC7403 (+12V regulator), Q7301 and Q7302 (temperature sensors), which are mounted on REAR, PWR, PRTEC ASSY or PWR, PRTEC ASSY, or VR7701, which is mounted on PCB of FRONT ASSY FOR 100W or FRONT ASSY FOR 50W, have been replaced.

■ Adjustment-Related Cautions

- Make sure the heat sink has sufficiently cooled (is the same as room temperature Ta.)
- Once the power has been turned ON, make measurements and adjustments as quickly as possible. (If too much time is taken, the heat sink temperature will rise, and the measurements will deviate from the Ta measurement point.)

■ Adjustment

1. Connect a voltmeter between TEMP and TP (or between IC7702 terminals No.3 and 2). (Refer to Figs. 4−2−3 and 4−2−6.)
2. Determine the fan motor operating temperature setting by means of the following formula. (Tolerance is within ±30mV.)
   Formula: (85°C − Ta) × 19 (mV)
   Ta: ambient temperature (°C)
3. Adjust the VR7701 so that the voltage between TEMP and TP is the value obtained from the above formula.
   For example:
   when the room temperature is 25°C,
   set value = (85 − 25) × 19 (mV)
   = 1140mV (tolerance within ±30mV).

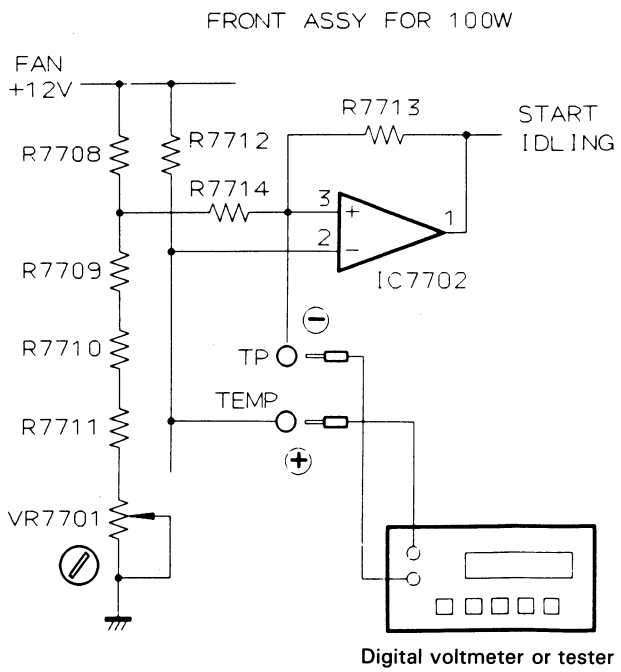
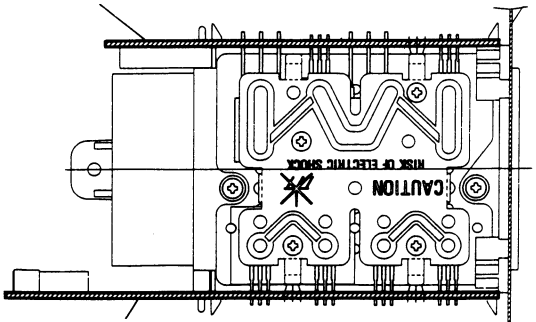


Fig. 4−2−6 Adjustment of Operating Temperature Setting of Fan Motor

FRONT ASSY FOR 100W (Front Amp Side)
FRONT ASSY FOR 50W



REAR, PWR, PRTEC ASSY (Rear Amp Side)

Fig. 4−2−1 Power Amp Module

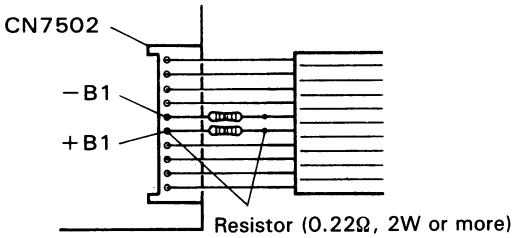


Fig. 4−2−2 FRONT ASSY FOR 100W
FRONT ASSY FOR 50W

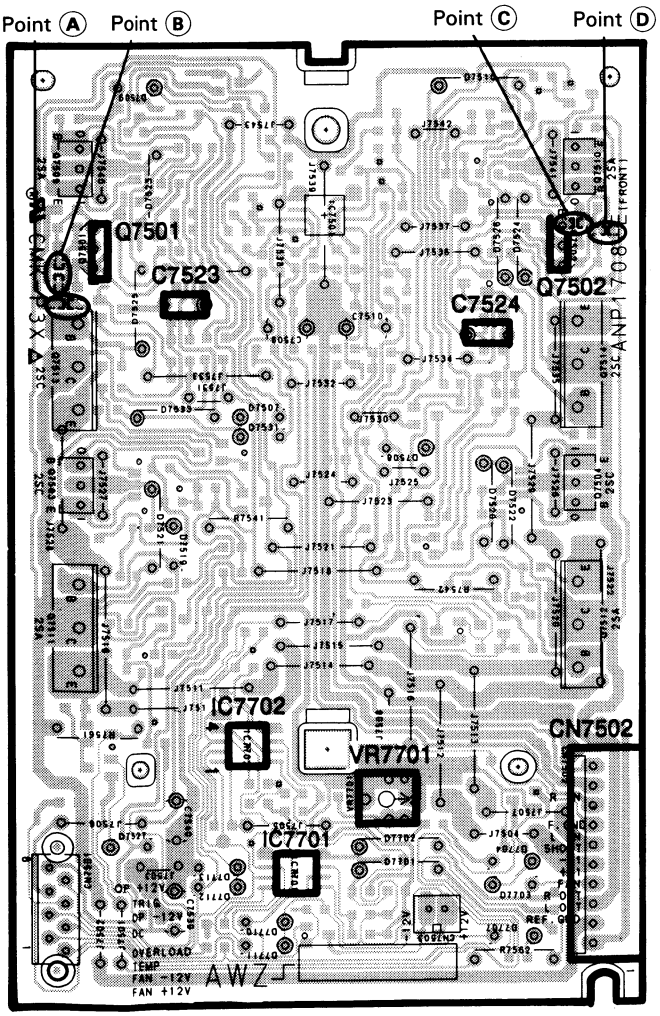


Fig. 4−2−3 FRONT ASSY FOR 100W
FRONT ASSY FOR 50W
(This diagram is viewed from the foil side)

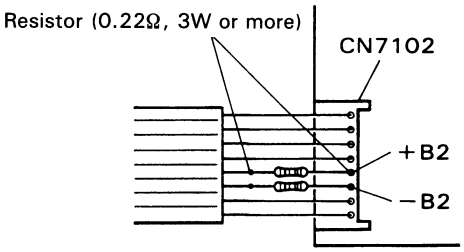


Fig. 4−2−4 REAR, PWR, PRTEC ASSY

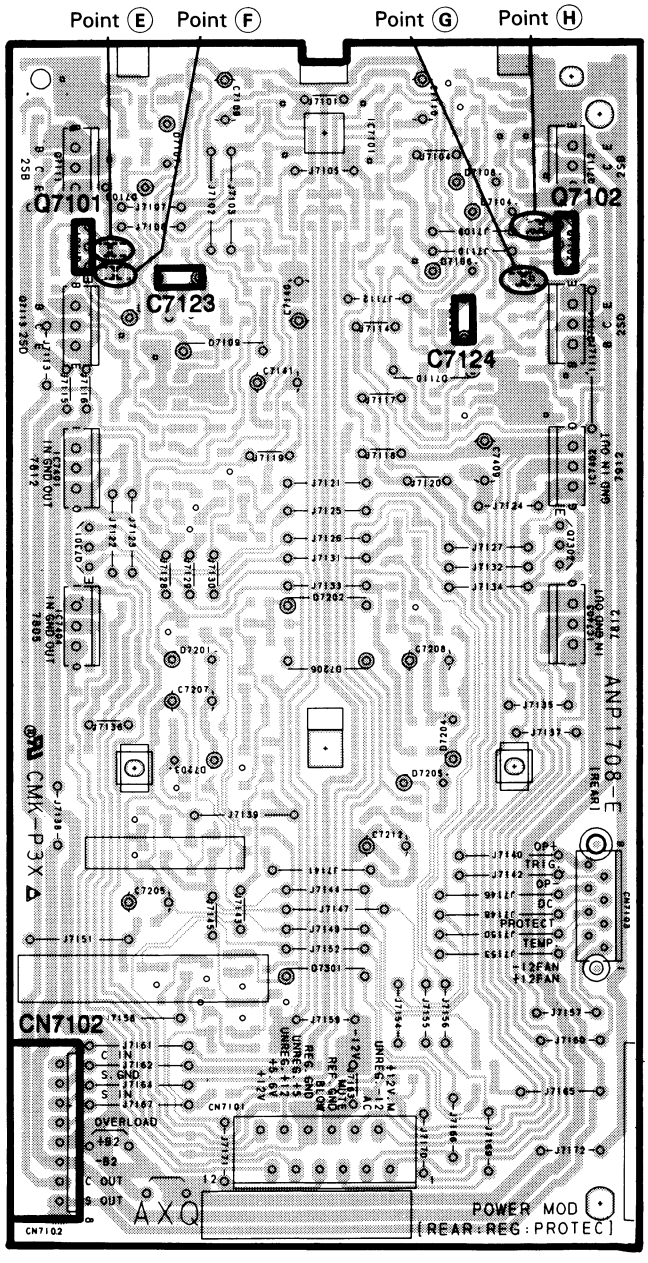


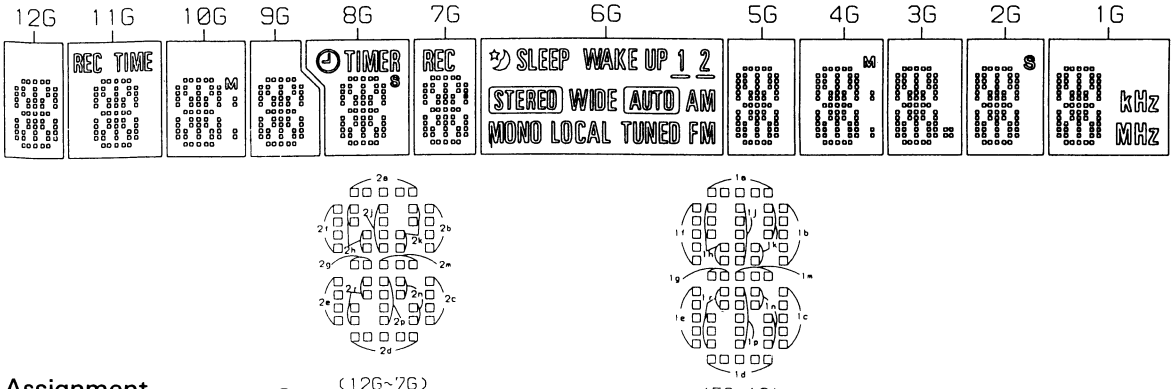
Fig. 4−2−5 REAR, PWR, PRTEC ASSY
(This diagram is viewed from the foil side)

5. FL INFORMATION

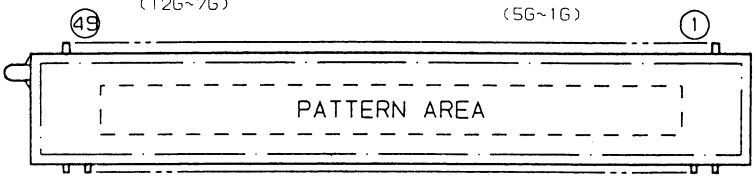
■ AAV1186 (V1101 : FRONT ASSY)

● FL Tube

● Grid Assignment



● Pin Assignment



● Pin Connection

PIN CONNECTION

PIN NO.	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	F2	F1	NP	NP	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	1	2	3	4	5	6	7	8	9	10	11	12	DL	DL	F1	F2

NOTE 1) F1,F2 --- Filament
2) NP ------ No pin
3) NC ------ No connection
4) 1G~12G --- Grid
5) DL ------ Datum Line

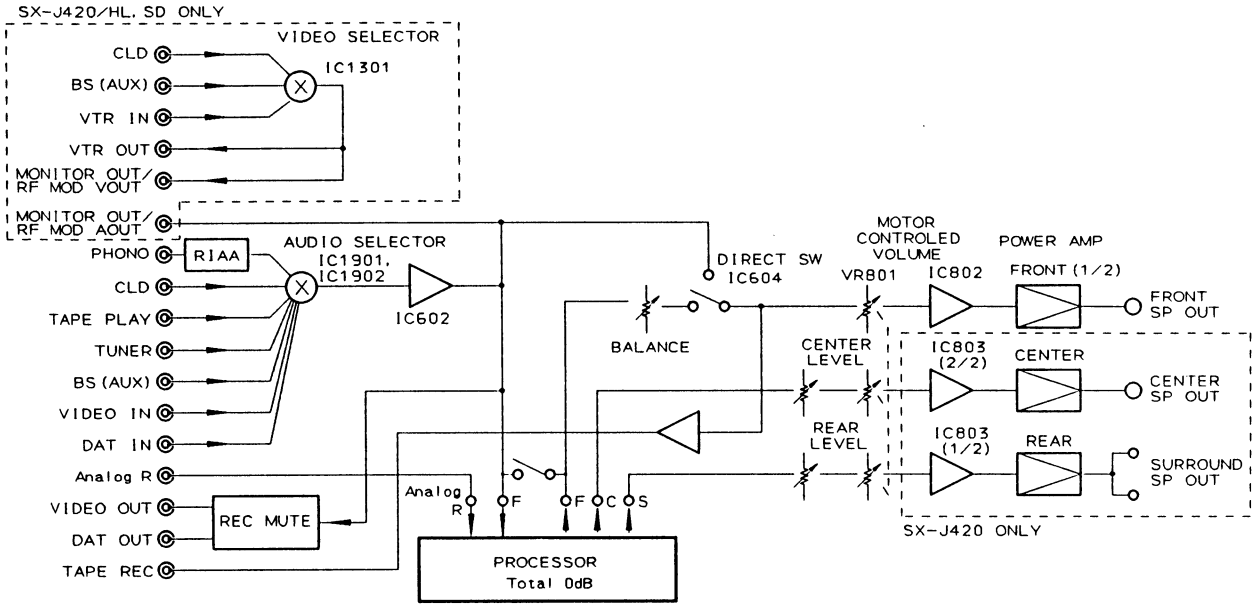
● Anode Connection

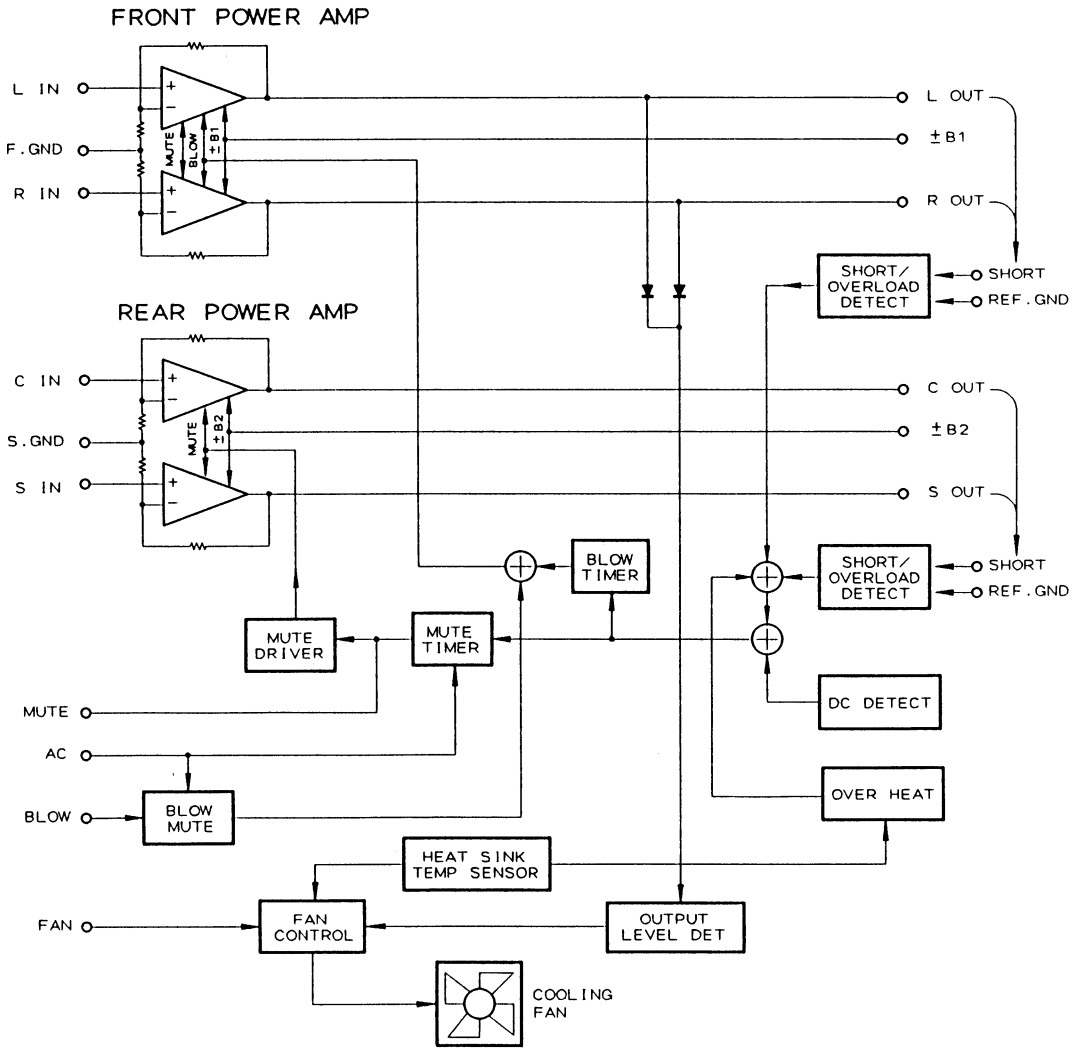
ANODE CONNECTION

	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	2a	2a	2a	2a	2a	2a	SLEEP	1a	1a	1a	1a	1a
P2	2j	2j	2j	2j	2j	2j	WAKE UP 1 2	1j	1j	1j	1j	1j
P3	2h	2h	2h	2h	2h	2h	(1)	1h	1h	1h	1h	1h
P4	2k	2k	2k	2k	2k	2k	(2)	1k	1k	1k	1k	1k
P5	2b	2b	2b	2b	2b	2b	STEREO	1b	1b	1b	1b	1b
P6	2f	2f	2f	2f	2f	2f	WIDE	1f	1f	1f	1f	1f
P7	2m	2m	2m	2m	2m	2m	AUTO	1m	1m	1m	1m	1m
P8	2g	2g	2g	2g	2g	2g	AM	1g	1g	1g	1g	1g
P9	2c	2c	2c	2c	2c	2c	MONO	1c	1c	1c	1c	1c
P10	2e	2e	2e	2e	2e	2e	LOCAL	1e	1e	1e	1e	1e
P11	2r	2r	2r	2r	2r	2r	TUNED	1r	1r	1r	1r	1r
P12	2n	2n	2n	2n	2n	2n	FM	1n	1n	1n	1n	1n
P13	2p	2p	2p	2p	2p	2p	-	1p	1p	1p	1p	1p
P14	2d	2d	2d	2d	2d	2d	-	1d	1d	1d	1d	1d
P15	-	REC	M	-	TIMER	REC	-	-	M	-	-	kHz
P16	-	TIME	:	-	S	-	-	-	:	:	S	MHz

6. BLOCK DIAGRAM

● POWER MODULE





● Pin Function of Power Module

Connector	No.	Name	I/O	Description
CN7101	1	+12V. M	O	+12V separate system stabilized output
	2	UNREG −12	I	Unstabilized power input for −12V
	3	AC	I	AC detection input; for power ON/OFF and MUTE.
	4	−12V	O	Stabilized power output for −12V
	5	MUTE	I/O	Mute external input; outputs internal mute conditions; cancels forced mute.
	6	REF. GND	I	GND for protective circuit; reference GND for short detection
	7	BLOW	I	BLOW circuit external output; ON at ±0.5V or more.
	8	REG. GND	I	Reference GND for stabilized power source
	9	UNREG +5	I	Unstabilized power input for +5.6V
	10	UNREG +12	I	Unstabilized power input for +12V and +12V. M
	11	+5.6V	O	+5.6V stabilized output
	12	+12V	O	+12V stabilized output
CN7102	1	C IN	I	Center signal input
	2	S. GND	I	Signal input GND; floating interior type
	3	S IN	I	Surround signal input
	4	OVERLOAD	I	Short detection input for Surround and Center channels
	5	+B2	I	Power supply (+) for Surround and Center channels
	6	−B2	I	Power supply (−) for Surround and Center channels
	7	C OUT	O	Center speaker output
	8	S OUT	O	Surround speaker output
CN7502	1	REF. GND	I	Reference GND for short detection
	2	L OUT	O	Left speaker output
	3	R OUT	O	Right speaker output
	4	FAN	I	Forced fan circuit input (LOW speed)
	5	+B1	I	Power supply (+) for L/R channels
	6	−B1	I	Power supply (−) for L/R channels
	7	SHORT	I	Short detection input for L/R channels
	8	L IN	I	Left signal input
	9	F. GND	I	Signal input GND; floating interior type
	10	R IN	I	Right signal input

7. TEST MODE

(1) INDEPENDENT OPERATIONAL CHECK OF THE PRODUCTS.

The products (SX−J520, SX−J420 and SX−J320) are components of the system products. For this reason they are not normally operated independently.
To check them independently, carry out step 1,2 in "(2) HOW TO ENTER TEST MODE," and then turn the power switch ON.

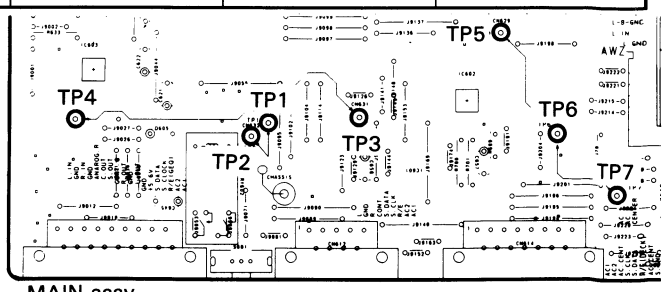
(2) HOW TO ENTER TEST MODE

1. • Short between terminals TP1 and TP2 and TP3 and TP4 in the MAIN assy.
   • Short terminals TP5, TP6, and TP7 with a solid wire. In this way the products can be operated and checked independently.
2. Insert the products power cord into an AC outlet.
3. Send the "A65F power" code to the products.
4. Once Test Mode has been entered, the following procedure will start.

Check	AMP (Receiver)	TAPE	CD	GEQ
	Once "A65F" code signal has been received, OEFC (all-round test) command bus is output.	REC MUTE PLAY	PLAY • PAUSE	LED scroll is illuminated
LED, FL check	STANDBY → DIRECT → ENTER → TUNING → STANDBY	4.5 seconds ↓		
	The above LED is illuminated for 0.5 second.	REC PAUSE		
	※ Ignore REC LOCK data from TAPE.			
Volume check	Volume (TA8409S) 3 seconds up ⇩ 2 seconds DOWN ⇩ STOP			
	During the above volume operation the microcomputer checks if the A/D value of the volume position input is normal UP/DOWN. If it is not normal, power will be turned OFF.			
10 seconds	DIRECT ON (LED is illuminated)			
	Output bus command to deck II →	REC PLAY		
	Output bus command to CD →		CD PLAY	
	FUNCTION changes to CD ←		CD AUTO FUNCTION BUS command output	
	If AUTO FUNCTION command is not received within 1 second after the CD has transmitted a command, power will be turned OFF.	5 seconds ↓		
		STOP MS REW PLAY		
	FUNCTION changes to TAPE ←	TAPE AUTO FUNCTION BUS command output		

- Once the "A413"(BAND) remote control code has been input during TEST mode, carry out the following procedure.

FL all illuminated → FL all extinguished → Normal display → FL all illuminated



MAIN assy

8. FOR SX−J520/HB, HEWZI, SX−J420/HE, HB, HEWZI, HL, SD, SX−J320/HE, HB, HEWZI, HL AND SD

NOTES :

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The numbers in "No." column correspond to the numbers on the exploded views and packing.*
  Refer to "EXPLODED VIEWS, PACKING AND PARTS LIST".
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

  Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

  560Ω → 56 × 10¹ → 561 ····· RD1/8PM [5][6][1] J

  47kΩ → 47 × 10³ → 473 ····· RD1/4PS [4][7][3] J

  0.5Ω → 0R5 ····· RN2H [0][R][5] K

  1Ω → 010 ····· RS1P [0][1][0] K

  Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

  5.62kΩ → 562 × 10¹ → 5621 ····· RM1/4PC [5][6][2][1] F

■ CONTRAST OF MISCELLANEOUS PARTS

SX−J520/HB, HEWZI, SX−J420/HE, HB, HEWZI, HL, SD, SX−J320/HE, HB, HEWZI, HL, SD and SX−J520/HE have the same construction except for the following :

Mark	No.	Symbol & Description	Part No.													Remarks
			SX−J520			SX−J420					SX−J320					
			HE	HB	HEWZI	HE	HB	HEWZI	HL	SD	HE	HB	HEWZI	HL	SD	
	43	MAIN assy	AWZ5192	AWZ5192	AWZ5193	AWZ5188	AWZ5188	AWZ5189	AWZ5240	AWZ5190	AWZ5185	AWZ5185	AWZ5186	AWZ5238	AWZ5187	
	46	FUNC assy	AWZ5195	AWZ5195	AWZ5197	AWZ5195	AWZ5195	AWZ5197	AWZ5290	AWZ5290	AWZ5195	AWZ5195	AWZ5197	AWZ5195	AWZ5195	
	44	VOLUME assy	AWZ5198	AWZ5198	AWZ5198	AWZ5201	AWZ5201	AWZ5201	AWZ5200	AWZ5200	AWZ5199	AWZ5199	AWZ5199	AWZ5198	AWZ5198	
	48	FRONT assy	AWZ5203	AWZ5203	AWZ5203	AWZ5203	AWZ5203	AWZ5203	AWZ5203	AWZ5203	AWZ5204	AWZ5204	AWZ5204	AWZ5204	AWZ5204	
	72	V SEL assy	·····	·····	·····	·····	·····	·····	AWZ5207	AWZ5207	·····	·····	·····	·····	·····	
NSP	50	H. P. assy	AWZ5208	AWZ5208	AWZ5209	AWZ5208	AWZ5208	AWZ5209	AWZ5208	AWZ5208	AWZ5208	AWZ5208	AWZ5209	AWZ5208	AWZ5208	
NSP	57	SW assy	AWZ5214	AWZ5214	AWZ5214	·····	·····	·····	·····	·····	·····	·····	·····	·····	·····	
NSP	51	SP assy	AWZ5261	AWZ5261	AWZ5262	AWZ5210	AWZ5210	AWZ5211	AWZ5210	AWZ5210	AWZ5212	AWZ5212	AWZ5213	AWZ5212	AWZ5212	
	53	FM/AM TUNER MODULE	AXQ1013	AXQ1013	AXQ1014	AXQ1013	AXQ1013	AXQ1014	AXQ1012	AXQ1012	AXQ1013	AXQ1013	AXQ1014	AXQ1012	AXQ1012	
	54	POWER MODULE (F100)	AXQ1017	AXQ1017	AXQ1017	·····	·····	·····	·····	·····	·····	·····	·····	·····	·····	
	54	POWER MODULE (F50 + R20)	·····	·····	·····	AXQ1020	AXQ1020	AXQ1020	AXQ1020	AXQ1020	·····	·····	·····	·····	·····	
	54	POWER MODULE (F50)	·····	·····	·····	·····	·····	·····	·····	·····	AXQ1018	AXQ1018	AXQ1018	AXQ1018	AXQ1018	
⚠	2	T1 Power transformer	ATS1508	ATS1508	ATS1508	ATS1505	ATS1505	ATS1505	·····	·····	ATS1503	ATS1503	ATS1503	·····	·····	
⚠	2	T1 Power transformer	·····	·····	·····	·····	·····	·····	ATS1506	ATS1506	·····	·····	·····	ATS1504	ATS1504	
⚠	73	S8001 Voltage selector (AC110−115V/120−127V/220−230V/240V)	·····	·····	·····	·····	·····	·····	·····	AKX−507	·····	·····	·····	·····	AKX−507	
⚠	74	S8002 Voltage selector (AC220−230V/240V for HL) (AC110−127V/220−240V for SD)	·····	·····	·····	·····	·····	·····	AKX1004	AKX1004	·····	·····	·····	AKX1004	AKX1004	
⚠	4	1P AC inlet	AKP1132	AKP1133	AKP1132	AKP1132	AKP1133	AKP1132	AKP1132	AKP1123	AKP1132	AKP1133	AKP1132	AKP1132	AKP1132	
⚠	77	1P AC outlet	·····	·····	·····	AKP1034	AKP1035	AKP1034	AKP1034	·····	·····	·····	·····	·····	·····	
⚠	62	AC power cord	ADG1127	ADG1143	ADG1127	ADG1127	ADG1143	ADG1127	ADG1127	ADG1129	ADG1127	ADG1143	ADG1127	ADG1127	ADG1129	
⚠	75	FU1 Fuse (T2A/250V)	·····	·····	·····	AEK−511	AEK−511	AEK−511	AEK−511	·····	·····	·····	·····	·····	·····	
⚠	5	FU2 Fuse (T2A/250V)	AEK−511	AEK−511	AEK−511	·····	·····	·····	·····	·····	·····	·····	·····	·····	·····	
⚠	5	FU2 Fuse (T1.6A/250V)	·····	·····	·····	AEK−510	AEK−510	AEK−510	AEK−510	AEK−510	AEK−510	AEK−510	AEK−510	AEK−510	AEK−510	
⚠	76	FU3 Fuse (T1.6A/250V)	·····	·····	·····	·····	·····	·····	·····	AEK−510	·····	·····	·····	·····	AEK−510	

Mark	No.	Symbol & Description	Part No.													Remarks
			SX−J520			SX−J420					SX−J320					
			HE	HB	HEWZI	HE	HB	HEWZI	HL	SD	HE	HB	HEWZI	HL	SD	
	34	Knob sheet (PLS)	AAK2522	AAK2522	AAK2522	AAK2522	AAK2522	AAK2522	AAK2520	AAK2520	AAK2522	AAK2522	AAK2522	AAK2520	AAK2520	
	8	Rear panel	ANC2130	ANC2129	ANC2131	ANC2125	ANC2124	ANC2126	ANC2128	ANC2127	ANC2120	ANC2119	ANC2121	ANC2123	ANC2122	
NSP	18	Reinforced bracket	ANG1635	ANG1635	ANG1635	ANG1635	ANG1635	ANG1635	ANG1635	ANG1635	.....	.....	.....	.....	.....	
	56	SP change button (PLS)	AAD2527	AAD2527	AAD2527	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	35	Display panel (PLS)	AAK2527	AAK2527	AAK2527	AAK2525	AAK2525	AAK2525	AAK2525	AAK2525	AAK2528	AAK2528	AAK2528	AAK2528	AAK2528	
	1	Front panel (PLS)	AMB2195	AMB2195	AMB2195	AMB2194	AMB2194	AMB2194	AMB2194	AMB2194	AMB2193	AMB2193	AMB2193	AMB2193	AMB2193	
	38	Mic knob (PLS)	AAB1379	AAB1379	AAB1379	AAB1379	AAB1379	AAB1379	AAB1379	AAB1379	.....	.....	.....	.....	.....	
	78	Spacer (PLS)	.....	.....	.....	.....	.....	.....	AEC1463	AEC1463	.....	.....	.....	.....	.....	
	79	Earth plate	.....	.....	ANK1120	.....	.....	ANK1120	.....	.....	.....	.....	ANK1120	.....	.....	
	58	Operating instructions (German, Italian)	ARC1446	.....	ARC1446	ARC1446	.....	ARC1446	.....	.....	ARC1446	.....	ARC1446	.....	.....	
	59	Operating instructions (Dutch, Swedish, Spanish, Portuguese)	ARC1447	.....	.....	ARC1447	.....	.....	.....	.....	ARC1447	.....	.....	.....	.....	
	60	Operating instructions (English, French)	ARE1292	ARE1292	.....	ARE1292	ARE1292	.....	.....	.....	ARE1292	ARE1292	.....	.....	.....	
	80	Operating instructions (English, Spanish, Chinese)	.....	.....	.....	.....	.....	.....	ARE1293	ARE1293	.....	.....	.....	ARE1293	ARE1293	
	61	Remote control unit (CU−SX075)	AXD1376	AXD1376	AXD1376	.....	.....	.....	.....	.....	AXD1376	AXD1376	AXD1376	AXD1376	AXD1376	
	61	Remote control unit (CU−SX076)	.....	.....	.....	AXD1378	AXD1378	AXD1378	AXD1378	AXD1378	.....	.....	.....	.....	.....	
	71	Battery cover	AZN2235	AZN2235	AZN2235	AZN2237	AZN2237	AZN2237	AZN2237	AZN2237	AZN2235	AZN2235	AZN2235	AZN2235	AZN2235	
	63	FM antenna	ADH1019	ADH1019	ADH1019	ADH1019	ADH1019	ADH1019	ADH1016	ADH1016	ADH1019	ADH1019	ADH1019	ADH1016	ADH1016	
	81	Caution card (220−230V)	.....	.....	.....	.....	.....	.....	ARR7001	ARR7001	.....	.....	.....	ARR7001	ARR7001	
	69	Packing case	AHD2654	AHD2654	AHD2654	AHD2651	AHD2651	AHD2651	AHD2652	AHD2652	AHD2648	AHD2648	AHD2648	AHD2649	AHD2649	

● List of PCB assemblies for SX−J420/HL and SD

	DISP ASSY	AWM1485
	├─FRONT ASSY	AWZ5203
	├─V SEL ASSY	AWZ5207
NSP	├─H. P. ASSY	AWZ5208
NSP	├─SP ASSY	AWZ5210
NSP	└─TACT SW ASSY	AWZ5230

● PCB PARTS LIST

Mark	No.	Description	Parts No.
MAIN ASSY (AWZ5193)			
SEMICONDUCTORS			
	IC604		LC4966
	IC601		MC14052BF
	IC608		TC9184P
	IC602, IC603, IC610		XRA4558F−P
	Q615, Q619, Q620		2SA1162
	Q611		2SB1274
	Q612		2SC2458
	Q616, Q618		2SC2712
	Q601, Q602		2SK246
	Q603, Q608, Q613		XDA124EK
	Q606		XDA143EK
	Q604, Q605, Q607, Q609, Q614		XDC124EK
	Q621		XDC143EK
	D607, D620		1SS184
	D632, D634, D636−D639		1SS226
	D619		D3SBA20 (A)
	D617		D5SB20F
	D605, D606, D614, D621		HSS104−02
	D623−D629, D640, D641		HSS104−02
	D616		RD10ESB
	D615		RD30ESB
	D609, D610		RD5.1EB
	D603, D604		RD8.2ESB2
	D611−D613, D622, D630, D631		S5688G
COILS AND FILTERS			
⚠	L601		ATF1006
TRANSFORMERS			
⚠	T601		ATT1239
RELAYS			
	RY602		ASR1035
⚠	RY601		ASR1036
CAPACITORS			
⚠	C651, C669 (0.01/400)		ACG1003
	C627, C628 (6800/63)		ACH1137
	C695, C696		CCSQCH101J50
	C637−C640, C643, C644		CCSQCH391J50
	C665, C666		CCSQCH391J50
	C603, C604, C687, C688		CCSQCH470J50
	C685, C686		CCSQCH471J50
	C607, C608		CCSQCH560J50
	C647		CEANP4R7M50
	C605, C606, C697		CEAS010M50
	C657, C658		CEAS101M10
	C646		CEAS101M50
	C634		CEAS102M25
	C632		CEAS102M35
	C650		CEAS331M50
	C631		CEAS332M35
	C671		CEAS3R3M50
	C621, C622		CEAS470M35
	C648, C649		CEAS470M50
	C617, C618		CFTXA823J50
	C641, C642		CKSQYB102K50
	C663, C664, C705		CKSQYB103K50
	C698, C699		CKSQYB152K50
	C613−C616		CKSQYB153K50
	C619, C620		CKSQYB332K50
	C609, C610		CKSQYB473K50
	C689−C693		CKSQYB561K50
	C676−C679		CKSQYF104Z50
	C633		CQMA103J50
	C672, C673		CQMA104J50
	C674, C675		CQMA223J50
RESISTORS			
	R662		RD1/2PM182J
	R660, R661		RD1/2PM221J
	R706		RD1/2PM472J
	R665		RD1/2PM622J
	R633, R634		RD1/4PM151J
	R667		RD1/4PM470J
	R679, R703		RD1/8PM102J
	R666		RD1/8PM203J
	R693−R695, R699−R701		RD1/8PM222J
	R1410		RD1/8PM332J
	R625, R626, R635, R636		RD1/8PM471J
	R1407, R1408		RD1/8PM472J
	R656		RD1/8PM623J
	R664		RFA1/4PS4R7J
⚠	R651, R652		RS3LMFR22J
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN607 PLUG 14−P		AKM1110
	PLUG (9P)		AKM1112
	SOCKET (15P)		AKP1049
	CN612 SOCKET (9P)		AKP1072
	CN604 40P SOCKET		AKP1085
	SOCKET (18P)		AKP1131
	CN609, CN611 11P PLUG		KM200IA11
	CN605 12P SOCKET		KP250NA12
	CN603 CONNECTOR (12P)		KPC12
	CN608 JUMPER CONNECTOR		KPC8
	CN617 CONNECTOR (3P)		KPE3
MAIN ASSY (AWZ5188 and AWZ5189)			
SEMICONDUCTORS			
	IC604		LC4966
	IC601		MC14052BF
	IC605		TC9154AP
	IC608		TC9184P
	IC602, IC603, IC606, IC607, IC610		XRA4558F−P
	Q615, Q619, Q620		2SA1162
	Q611		2SB1274
	Q612		2SC2458
	Q616, Q618		2SC2712
	Q608		XDA124EK
	Q606		XDA143EK
	Q604, Q605, Q607, Q609, Q614		XDC124EK
	Q617		XDC124EK
	Q621		XDC143EK
	D620		1SS184
	D601, D602, D632, D634		1SS226
	D636−D639		1SS226
	D617, D619		D3SBA20 (A)
	D605, D606, D614, D621		HSS104−02
	D623−D629, D640, D641		HSS104−02

Mark	No.	Description	Parts No.
	D616		RD10ESB
	D615		RD30ESB
	D609, D610		RD5.1EB
	D603, D604		RD8.2ESB2
	D611－D613, D622, D630, D631		S5688G
	COILS AND FILTERS		
⚠	L601		ATF1006
	TRANSFORMERS		
⚠	T601		ATT1239
	RELAYS		
	RY602		ASR1035
⚠	RY601		ASR1036
	CAPACITORS		
⚠	C651, C669 (0.01/400)		ACG1003
	C627, C628 (5600/50)		ACH1145
	C695, C696		CCSQCH101J50
	C639, C640, C643, C644		CCSQCH391J50
	C637, C638, C665, C666 (AWZ5189 only)		CCSQCH391J50
	C603, C604, C687, C688 (AWZ5189 only)		CCSQCH470J50
	C685, C686 (AWZ5189 only)		CCSQCH471J50
	C607, C608		CCSQCH560J50
	C667, C668 (AWZ5189 only)		CCSQCH820J50
	C605, C606, C697		CEAS010M50
	C657, C658		CEAS101M10
	C646		CEAS101M50
	C634		CEAS102M25
	C645		CEAS2R2M50
	C650		CEAS331M50
	C631, C632		CEAS332M35
	C671		CEAS3R3M50
	C621, C622		CEAS470M35
	C648, C649		CEAS470M50
	C617, C618		CFTXA823J50
	C641, C642		CKSQYB102K50
	C701, C702 (AWZ5189 only)		CKSQYB102K50
	C663, C664		CKSQYB103K50
	C700, C705 (AWZ5189 only)		CKSQYB103K50
	C698, C699		CKSQYB152K50
	C613－C616		CKSQYB153K50
	C619, C620		CKSQYB332K50
	C609, C610, C623, C624		CKSQYB473K50
	C655, C656		CKSQYB473K50
	C689－C693		CKSQYB561K50
	C676－C683		CKSQYF104Z50
	C633		CQMA103J50
	C672, C673		CQMA104J50
	C674, C675		CQMA223J50
	RESISTORS		
	R662		RD1/2PM122J
	R660, R661		RD1/2PM221J
	R706		RD1/2PM472J
	R665		RD1/2PM622J
	R633, R634		RD1/4PM151J
	R667		RD1/4PM470J
	R679, R703		RD1/8PM102J
	R666		RD1/8PM203J
	R693－R695, R699－R701		RD1/8PM222J
	R1410		RD1/8PM332J
	R625, R626, R635, R636		RD1/8PM471J
	R1407, R1408		RD1/8PM472J
	R656		RD1/8PM623J

Mark	No.	Description	Parts No.
	R664		RFA1/4PS4R7J
⚠	R653, R654		RS1LMFR22J
⚠	R651, R652		RS3LMFR22J
	R1413－R1415 (AWZ5189 only)		RS1/10S100J
	Other Resistors		RS1/10S□□□J
	OTHERS		
	CN607 PLUG 14－P		AKM1110
	PLUG (9P)		AKM1112
	SOCKET (15P)		AKP1049
	CN612 SOCKET (9P)		AKP1072
	CN604 40P SOCKET		AKP1085
	SOCKET (18P)		AKP1131
	CN609, CN611 11P PLUG		KM200IA11
	CN605 12P SOCKET		KP250NA12
	CN608 JUMPER CONNECTOR		KPC8
	CN617 CONNECTOR (3P)		KPE3
	MAIN ASSY (AWZ5240 and AWZ5190)		
	SEMICONDUCTORS		
	IC604		LC4966
	IC601		MC14052BF
	IC605		TC9154AP
	IC602, IC603, IC606, IC607, IC610		XRA4558F－P
	Q615, Q619, Q620		2SA1162
	Q611		2SB1274
	Q612		2SC2458
	Q616, Q618		2SC2712
	Q608		XDA124EK
	Q606		XDA143EK
	Q604, Q605, Q607, Q609, Q614		XDC124EK
	Q617		XDC124EK
	Q621		XDC143EK
	D620		1SS184
	D601, D602, D632, D634		1SS226
	D636－D639		1SS226
	D617, D619		D3SBA20 (A)
	D605, D606, D614, D621		HSS104－02
	D623－D629, D640, D641		HSS104－02
	D616		RD10ESB
	D615		RD30ESB
	D609, D610		RD5.1EB
	D611－D613, D622, D630, D631		S5688G
	COILS AND FILTERS		
⚠	L601		ATF1006
	TRANSFORMERS		
⚠	T601		ATT1239
	SWITCH AND RELAYS		
	S601		ASH1027
	RY602		ASR1035
⚠	RY601		ASR1036
	CAPACITORS		
⚠	C651, C669 (0.01/400)		ACG1003
	C627, C628 (5600/50)		ACH1145
	C695, C696		CCSQCH101J50
	C639, C640, C643, C644		CCSQCH391J50
	C697		CEAS010M50
	C657, C658		CEAS101M10
	C646		CEAS101M50
	C634		CEAS102M25
	C645		CEAS2R2M50
	C650		CEAS331M50

Mark	No.	Description	Parts No.
	C631, C632		CEAS332M35
	C671		CEAS3R3M50
	C621, C622		CEAS470M35
	C648, C649		CEAS470M50
	C641, C642		CKSQYB102K50
	C663, C664		CKSQYB103K50
	C698, C699		CKSQYB152K50
	C609, C610, C623, C624		CKSQYB473K50
	C655, C656		CKSQYB473K50
	C689－C693		CKSQYB561K50
	C676－C683		CKSQYF104Z50
	C633		CQMA103J50
	C672, C673		CQMA104J50
	C674, C675		CQMA223J50
RESISTORS			
	R662		RD1/2PM122J
	R661		RD1/2PM221J
	R706		RD1/2PM472J
	R665		RD1/2PM622J
	R633, R634		RD1/4PM151J
	R667		RD1/4PM470J
	R679, R703		RD1/8PM102J
	R666		RD1/8PM203J
	R699－R701		RD1/8PM222J
	R1410		RD1/8PM332J
	R625, R626, R635, R636		RD1/8PM471J
	R1407, R1408		RD1/8PM472J
	R656		RD1/8PM623J
	R664		RFA1/4PS4R7J
	R660		RS1LMF121J
⚠	R653, R654		RS1LMFR22J
⚠	R651, R652		RS3LMFR22J
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN607 PLUG 14－P		AKM1110
	PLUG (9P)		AKM1112
	SOCKET (15P)		AKP1049
	CN612 SOCKET (9P)		AKP1072
	CN604 40P SOCKET		AKP1085
	SOCKET (18P)		AKP1131
	CN609, CN611 11P PLUG		KM200IA11
	CN605 12P SOCKET		KP250NA12
	CN608 JUMPER CONNECTOR		KPC8
	CN617 CONNECTOR (3P)		KPE3

MAIN ASSY (AWZ5185 and AWZ5186)

Mark	No.	Description	Parts No.
SEMICONDUCTORS			
	IC604		LC4966
	IC601		MC14052BF
	IC608		TC9184P
	IC602, IC603, IC610		XRA4558F－P
	Q615, Q619, Q620		2SA1162
	Q611		2SB1274
	Q612		2SC2458
	Q616, Q618		2SC2712
	Q601, Q602		2SK246
	Q603, Q608, Q613		XDA124EK
	Q606		XDA143EK
	Q604, Q605, Q607, Q609, Q614		XDC124EK
	Q621		XDC143EK
	D607, D620		1SS184
	D632, D634, D636－D639		1SS226
	D617, D619		D3SBA20 (A)
	D605, D606, D614, D621		HSS104－02
	D623－D629, D640, D641		HSS104－02
	D616		RD10ESB
	D615		RD30ESB
	D609, D610		RD5.1EB
	D603, D604		RD8.2ESB2
	D611－D613, D622, D630, D631		S5688G
COILS AND FILTERS			
⚠	L601		ATF1006
TRANSFORMERS			
⚠	T601		ATT1239
RELAYS			
	RY602		ASR1035
⚠	RY601		ASR1036
CAPACITORS			
⚠	C651, C669 (0.01/400)		ACG1003
	C627, C628 (5600/50)		ACH1145
	C695, C696		CCSQCH101J50
	C639, C640, C643, C644		CCSQCH391J50
	C637, C638, C665, C666(AWZ5186 only)		CCSQCH391J50
	C603, C604, C687, C688 (AWZ5186 only)		CCSQCH470J50
	C685, C686 (AWZ5186 only)		CCSQCH471J50
	C607, C608		CCSQCH560J50
	C647		CEANP4R7M50
	C605, C606, C697		CEAS010M50
	C657, C658		CEAS101M10
	C646		CEAS101M50
	C634		CEAS102M25
	C632		CEAS102M35
	C650		CEAS331M50
	C631		CEAS332M35
	C671		CEAS3R3M50
	C621, C622		CEAS470M35
	C648, C649		CEAS470M50
	C617, C618		CFTXA823J50
	C641, C642		CKSQYB102K50
	C663, C664		CKSQYB103K50
	C705 (AWZ5186 only)		CKSQYB103K50
	C698, C699		CKSQYB152K50
	C613－C616		CKSQYB153K50
	C619, C620		CKSQYB332K50
	C609, C610		CKSQYB473K50
	C689－C693		CKSQYB561K50
	C676－C679		CKSQYF104Z50
	C633		CQMA103J50
	C672, C673		CQMA104J50
	C674, C675		CQMA223J50
RESISTORS			
	R662		RD1/2PM122J
	R660, R661		RD1/2PM221J
	R706		RD1/2PM472J
	R665		RD1/2PM622J
	R633, R634		RD1/4PM151J
	R667		RD1/4PM470J
	R679, R703		RD1/8PM102J
	R666		RD1/8PM203J
	R693－R695, R699－R701		RD1/8PM222J
	R1410		RD1/8PM332J

Mark	No.	Description	Parts No.
	R625, R626, R635, R636		RD1/8PM471J
	R1407, R1408		RD1/8PM472J
	R656		RD1/8PM623J
	R664		RFA1/4PS4R7J
⚠	R651, R652		RS3LMFR22J
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN607	PLUG 14−P	AKM1110
	PLUG (9P)		AKM1112
	SOCKET (15P)		AKP1049
	CN612	SOCKET (9P)	AKP1072
	CN604	40P SOCKET	AKP1085
	SOCKET (18P)		AKP1131
	CN609, CN611	11P PLUG	KM200IA11
	CN605	12P SOCKET	KP250NA12
	CN608	JUMPER CONNECTOR	KPC8

MAIN ASSY (AWZ5238 and AWZ5187)

SEMICONDUCTORS

	IC604		LC4966
	IC601		MC14052BF
	IC602, IC603, IC610		XRA4558F−P
	Q615, Q619, Q620		2SA1162
	Q611		2SB1274
	Q612		2SC2458
	Q616, Q618		2SC2712
	Q608		XDA124EK
	Q606		XDA143EK
	Q604, Q605, Q607, Q609, Q614		XDC124EK
	Q621		XDC143EK
	D620		1SS184
	D632, D634, D636−D639		1SS226
	D617, D619		D3SBA20 (A)
	D605, D606, D614, D621		HSS104−02
	D623−D629, D640, D641		HSS104−02
	D616		RD10ESB
	D615		RD30ESB
	D609, D610		RD5.1EB
	D611−D613, D622, D630, D631		S5688G

COILS AND FILTERS

⚠	L601		ATF1006

TRANSFORMERS

⚠	T601		ATT1239

SWITCH AND RELAYS

	S601		ASH1027
	RY602		ASR1035
⚠	RY601		ASR1036

CAPACITORS

⚠	C651, C669 (0.01/400)		ACG1003
	C627, C628 (5600/50)		ACH1145
	C695, C696		CCSQCH101J50
	C639, C640, C643, C644		CCSQCH391J50
	C647		CEANP4R7M50
	C697		CEAS010M50
	C657, C658		CEAS101M10
	C646		CEAS101M50
	C634		CEAS102M25
	C632		CEAS102M35
	C650		CEAS331M50
	C631		CEAS332M35
	C671		CEAS3R3M50
	C621, C622		CEAS470M35
	C648, C649		CEAS470M50
	C641, C642		CKSQYB102K50
	C663, C664		CKSQYB103K50
	C698, C699		CKSQYB152K50
	C609, C610		CKSQYB473K50
	C689−C693		CKSQYB561K50
	C676−C679		CKSQYF104Z50
	C633		CQMA103J50
	C672, C673		CQMA104J50
	C674, C675		CQMA223J50

RESISTORS

	R662		RD1/2PM122J
	R660, R661		RD1/2PM221J
	R706		RD1/2PM472J
	R665		RD1/2PM622J
	R633, R634		RD1/4PM151J
	R667		RD1/4PM470J
	R679, R703		RD1/8PM102J
	R666		RD1/8PM203J
	R699−R701		RD1/8PM222J
	R1410		RD1/8PM332J
	R625, R626, R635, R636		RD1/8PM471J
	R1407, R1408		RD1/8PM472J
	R656		RD1/8PM623J
	R664		RFA1/4PS4R7J
⚠	R651, R652		RS3LMFR22J
	Other Resistors		RS1/10S□□□J

OTHERS

	CN607	PLUG 14−P	AKM1110
	PLUG (9P)		AKM1112
	SOCKET (15P)		AKP1049
	CN612	SOCKET (9P)	AKP1072
	CN604	40P SOCKET	AKP1085
	SOCKET (18P)		AKP1131
	CN609, CN611	11P PLUG	KM200IA11
	CN605	12P SOCKET	KP250NA12
	CN608	JUMPER CONNECTOR	KPC8

FUNC ASSY (AWZ5197)

SEMICONDUCTORS

	IC901		MC14052BF
	IC902		MC14066BF
	IC903		UPC4570G2
	Q901		2SA1162
	Q907		2SC2878
	Q902−Q906		XDA124EK
	D902		1SS181
	D901, D903, D904		1SS252

CAPACITORS

	C913, C914		CCSQCH101J50
	C917−C928		CCSQCH391J50
	C901, C902, C915, C916		CCSQCH471J50
	C929−C932		CCSQCH681J50
	C940		CEAS100M50
	C935, C936		CEAS101M10
	C909, C910		CEAS470M10
	C903, C904		CEAS4R7M50
	C939		CKSQYB103K50
	C905, C906		CKSQYB152K50
	C907, C908		CKSQYB562K50

Mark	No.	Description	Parts No.
		RESISTORS	
⚠	R949–R952		RD1/2PMFL100J
	R918		RD1/8PM103J
	R904, R955, R956		RD1/8PM222J
	Other Resistors		RS1/10S□□□J
		OTHERS	
	PIN JACK (6P)		AKB1121
	CN905 PIN JACK (6P)		AKB1129
	JACK		AKN–203
	SOCKET 9–P		AKP–076
		FUNC ASSY (AWZ5290)	
		SEMICONDUCTORS	
	IC901		MC14052BF
	IC902		MC14066BF
	IC903		UPC4570G2
	Q901		2SA1162
	Q907		2SC2878
	Q902–Q906		XDA124EK
	D902		1SS181
	D901, D903, D904		1SS252
		CAPACITORS	
	C940		CEAS100M50
	C935, C936		CEAS101M10
	C909, C910		CEAS470M10
	C903, C904		CEAS4R7M50
	C939		CKSQYB103K50
	C905, C906		CKSQYB152K50
	C907, C908		CKSQYB562K50
		RESISTORS	
⚠	R949–R952		RD1/2PMFL100J
	R918		RD1/8PM103J
	R904, R955, R956		RD1/8PM222J
	Other Resistors		RS1/10S□□□J
		OTHERS	
	PIN JACK (6P)		AKB1121
	CN905 PIN JACK (6P)		AKB1129
	JACK		AKN–203
	SOCKET 9–P		AKP–076
	CN903 9P SOCKET		AKM1040
		VOLUME ASSY (AWZ5201 and AWZ5200)	
		SEMICONDUCTORS	
	IC801		TA8409S
	IC802, IC803		UPC4570G2
	Q801, Q802, Q805, Q806		2SC3327
	Q803, Q804		XDA124ES
		COILS AND FILTERS	
	L801		LAU221K
		CAPACITORS	
	C819, C820, C823, C824		CCSQCH470J50
	C813, C814		CEAS100M50
	C828		CEAS101M25
	C811, C812		CEAS2R2M50
	C807, C808		CEXA470M25
	C801–C804		CEYA100M50
	C815, C816		CEYA2R2M50
	C805, C806 (For AWZ5201)		CEYAR47M50
	C805, C806 (For AWZ5200)		CEYA2R2M50
	C821, C822 (AWZ5201 only)		CKSQYB473K50
	C831, C832		CKSQYB473K50
	C809, C810		CKSQYF104Z50
	C827		CKSQYF473Z50
		RESISTORS	
	R809, R810 (For AWZ5200)		RS1/10S432J
	R809, R810 (For AWZ5201)		RS1/10S133J
	R835, R836		RD1/8PM101J
	R803, R804		RD1/8PM104J
	R817		RD1/8PM272J
	R818		RD1/8PM472J
	R849, R850 (AWZ5201 only)		RS1/10S622J
	VR801 (100k–4B*4, 50k–6B)		ACX1077
	Other Resistors		RS1/10S□□□J
		OTHERS	
	CN801, CN802 11P SOCKET		KP200IA11L
		VOLUME ASSY (AWZ5199)	
		SEMICONDUCTORS	
	IC801		TA8409S
	IC802		UPC4570G2
	Q801, Q802		2SC3327
	Q803		XDA124ES
		COILS AND FILTERS	
	L801		LAU221K
		CAPACITORS	
	C819, C820		CCSQCH470J50
	C828		CEAS101M25
	C807, C808		CEXA470M25
	C801–C804		CEYA100M50
	C805, C806		CEYA2R2M50
	C831, C832		CKSQYB473K50
	C809, C810		CKSQYF104Z50
	C827		CKSQYF473Z50
		RESISTORS	
	R835, R836		RD1/8PM101J
	R803, R804		RD1/8PM104J
	R817		RD1/8PM272J
	R818		RD1/8PM472J
	VR801 (100k–4B*2, 50k–6B)		ACX1067
	Other Resistors		RS1/10S□□□J
		OTHERS	
	CN801, CN802 11P SOCKET		KP200IA11L
		FRONT ASSY (AWZ5204)	
		SEMICONDUCTORS	
	IC1101		PDG109A
	Q1101		2SC2458
	Q1102–Q1106		XDC143ES
	D1118		AEL1065
	D1119		AEL1128
	D1120, D1121		AEL1144
	D1101–D1104, D1106–D1109, D1114		HSS104–02
	D1105		RD6.2ESB
		COILS AND FILTERS	
	L1101		LAU220J
		SWITCHES	
	S1101–S1109		ASG1034

Mark	No.	Description	Parts No.
CAPACITORS			
	C1101		ACH1135
	C1106, C1111		CCCSL101J50
	C1104, C1115		CEAS010M50
	C1107		CEAS100M50
	C1105		CEAS2R2M50
	C1103, C1112		CEAS470M16
	C1108–C1110		CFTXA103J50
	C1102		CFTXA473J50
	C1113		CKCYB222K50
	C1114		CKDYB102K50
	C1116		CKDYB152K50
	C1118		CKMYB102K50
	C1117		CKMYB152K50
RESISTORS			
	Other Resistors		RD1/8PM□□□J
OTHERS			
	V1101		AAV1186
	CN1101	40P SOCKET	AKP1087
	X1101	CRYSTAL RESONATOR	ASS1015
	REMOTE RECEIVER UNIT		AXX1033
H.P. ASSY (AWZ5209)			
CAPACITORS			
	C1003, C1004		CQPA103J100
RESISTORS			
	R1001, R1002		RS2LMF331J
OTHERS			
	CN1002	JACK	AKN1025
SP ASSY (AWZ5262)			
COILS AND FILTERS			
	L1001, L1002 (5.3μH)		ATH–059
	L1003–L1006 (53μH)		ATH1009
CAPACITORS			
	C1005–C1014		CQPA333J100
RESISTORS			
	R1003–R1008		RFA1/4PS101J
OTHERS			
	PIN JACK (2P)		AKB1126
	SPEAKER TERMINAL	8–P	AKE–111
	CN1001	12P PLUG	KM250NA12L
SP ASSY (AWZ5210)			
OTHERS			
	PIN JACK (3P)		AKB1213
	SPEAKER TERMINAL	4–P	AKE–109
	CN1001	12P PLUG	KM250NA12L
SP ASSY (AWZ5211)			
COILS AND FILTERS			
	L1001, L1002 (5.3μH)		ATH–059
	L1003, L1004 (53μH)		ATH1009
CAPACITORS			
	C1001, C1002, C1005, C1006		CQPA333J100
	C1009–C1012		CQPA333J100
RESISTORS			
	R1003–R1006		RFA1/4PS101J
OTHERS			
	PIN JACK (3P)		AKB1213
	SPEAKER TERMINAL	4–P	AKE–109
	CN1001	12P PLUG	KM250NA12L
SP ASSY (AWZ5212)			
OTHERS			
	PIN JACK (2P)		AKB1126
	SPEAKER TERMINAL	4–P	AKE–109
	CN1001	12P PLUG	KM250NA12L
SP ASSY (AWZ5123)			
COILS AND FILTERS			
	L1001, L1002 (5.3μH)		ATH–059
	L1003, L1004 (53μH)		ATH1009
CAPACITORS			
	C1005, C1006, C1009–C1012		CQPA333J100
RESISTORS			
	R1003–R1006		RFA1/4PS101J
OTHERS			
	PIN JACK (2P)		AKB1126
	SPEAKER TERMINAL	4–P	AKE–109
	CN1001	12P PLUG	KM250NA12L
V SEL ASSY (AWZ5207)			
SEMICONDUCTORS			
	IC1301		CXA1558L
	Q1301		2SA1515
	Q1302		XDC143ES
	D1301–D1305		1SS252
COILS AND FILTERS			
	L1301		LAU2R2J
	L1302		LAU680K
CAPACITORS			
	C1309		CEAS101M10
	C1306, C1307, C1311		CEAS331M6
	C1301–C1303		CEAS470M16
	C1316		CKCYB152K50
	C1308, C1310		CKCYX104M16
	C1315		CKDYB152K50
	C1304, C1305		CKMYB102K50
RESISTORS			
	R1318, R1319		RD1/4PM180J
	Other Resistors		RD1/8PM□□□J
OTHERS			
	PHONO JACK	2–P	AKB1134
FM/AM TUNER MODULE (AXQ1014)			
SEMICONDUCTORS			
	IC6201		LA1836M
	IC6202		LM7001J
	Q6102		2SC2223
	Q6203		2SC2235
	Q6202, Q6218		2SC2712
	Q6103, Q6214		2SC2714

Mark	No.	Description	Parts No.
	Q6201		2SK208
	Q6104, Q6105		2SK302
	Q6101		3SK194
	Q6204		XDA124EK
	Q6217		XDC124EK
	D6101–D6104		1SV228
COILS AND FILTERS			
	L6106		ATC1003
	L6105		ATC1015
	L6101		ATC1016
	L6102		ATC1017
	L6103		ATC1018
	L6104		ATC1019
	T6101		ATE–063
	L6207		ATE1013
	F6204 (SFE10.7MA8)		ATF–107
	F6203 (SFE10.7MS3G)		ATF–119
	F6202 (450kHz)		ATF1145
	F6205		ATF1152
	L6107		ATH1043
	L6202, L6203, L6208		LCTA2R2J3225
	L6205		LCTA680J3225
CAPACITORS			
	C6204, C6234, C6236, C6269		ACG1051
	C6235		ACG1052
	C6120		CCSCH060D50
	C6229		CCSCH821J50
	C6111, C6122		CCSQCH010C50
	C6112		CCSQCH020C50
	C6118		CCSQCH080D50
	C6113		CCSQCH101J50
	C6116, C6208, C6221, C6222		CCSQCH150J50
	C6117		CCSQCH330J50
	C6272		CCSQSL470J50
	C6105		CCSQSL471J50
	C6101		CCSQTH110J50
	C6119		CCSQTH150J50
	C6109		CCSQTH270J50
	C6107, C6110		CCSQTH300J50
	C6106		CCSQTH330J50
	C6261		CEAS010M50
	C6224, C6231, C6233, C6246, C6262		CEAS100M50
	C6216, C6217		CEAS330M16
	C6219		CEAS470M10
	C6243–C6245		CEAS470M16
	C6227		CEAS470M25
	C6238, C6248		CEJA100M16
	C6249, C6250		CEJA4R7M35
	C6215		CFTXA103J50
	C6214		CFTXA224J50
	C6115, C6125, C6126, C6207		CKSQYB102K50
	C6102, C6114, C6121, C6124, C6210		CKSQYB103K50
	C6264		CKSQYB103K50
	C6247		CKSQYB122K50
	C6213		CKSQYB223K50
	C6230		CKSQYB273K50
	C6228		CKSQYB472K50
	C6209, C6237, C6267		CKSQYB473K50
	C6251, C6252		CKSQYB562K50
	C6212, C6218		CKSQYF103Z50
	C6220, C6226, C6239, C6242		CKSQYF223Z50
	C6255, C6256		CKSQYF223Z50
	C6225, C6241		CKSQYF473Z50

Mark	No.	Description	Parts No.
	C6123		CKSYB103K50
	C6232		CKSYB273K50
	C6223		CKSYF103Z50
	C6263		CKSYF473Z50
RESISTORS			
	R6299, R6300		RD1/8PM102J
	R6115, R6119, R6123, R6127, R6129		RS1/8S000J
	R6268–R6271, R6275, R6276, R6278		RS1/8S000J
	R6283, R6284, R6293, R6294, R6297		RS1/8S000J
	R6302, R6303		RS1/8S000J
	R6243, R6244		RS1/8S101J
	R6211, R6239		RS1/8S103J
	R6237		RS1/8S122J
	R6209		RS1/8S221J
	R6112		RS1/8S473J
	VR6201		ACP1055
	VR6202		VRTB6VS223
	Other Resistors		RS1/10S□□□J
OTHERS			
	BN6201	2P TERMINAL WITH PAL	AKA1017
	X6203	CRYSTAL RESONATOR	ASS1042
	X6201	CRYSTAL RESONATOR	ASS1066
	X6202	CERAMIC RESONATOR	ATF1027
	AM RF TUNING BLOCK		AXX1041

FM/AM TUNER MODULE (AXQ1012)

SEMICONDUCTORS

	IC6201	LA1836M
	IC6202	LM7001J
	Q6102	2SC2223
	Q6203	2SC2235
	Q6202	2SC2712
	Q6103, Q6214	2SC2714
	Q6201	2SK208
	Q6104	2SK302
	Q6101	3SK194
	Q6204	XDA124EK
	Q6217	XDC124EK
	D6101, D6102	1T33

COILS AND FILTERS

	L6104	ATC1003
	L6101	ATC1020
	L6102	ATC1021
	T6101	ATE–063
	L6207	ATE1013
	F6203, F6204 (SFE10.7MS3G)	ATF–119
	F6101	ATF–155
	F6202 (450kHz)	ATF1145
	L6103	ATH1043
	L6202, L6203, L6208	LCTA2R2J3225

CAPACITORS

	C6202, C6234, C6236	ACG1051
	C6235	ACG1052
	C6107	CCSCH010C50
	C6229	CCSCH821J50
	C6110	CCSQCH020C50
	C6101	CCSQCH050C50
	C6108, C6203, C6268	CCSQCH101J50
	C6111, C6116, C6208, C6221, C6222	CCSQCH150J50
	C6115	CCSQCH330J50
	C6114	CCSQCH080D50

Mark	No.	Description	Parts No.
	C6113		CCSQRH180J50
	C6105		CCSQTH150J50
	C6261		CEAS010M50
	C6224, C6231, C6233, C6246, C6262		CEAS100M50
	C6216, C6217		CEAS330M16
	C6219		CEAS470M10
	C6243–C6245		CEAS470M16
	C6227		CEAS470M25
	C6238		CEJA100M16
	C6249, C6250		CEJA4R7M35
	C6215		CFTXA103J50
	C6214		CFTXA224J50
	C6103, C6106, C6112, C6204		CKSQYB102K50
	C6102, C6109, C6117, C6210, C6264		CKSQYB103K50
	C6213		CKSQYB223K50
	C6230		CKSQYB333K50
	C6228, C6252		CKSQYB472K50
	C6209, C6237, C6265, C6267		CKSQYB473K50
	C6212, C6218		CKSQYF103Z50
	C6220, C6226, C6239, C6242, C6255		CKSQYF223Z50
	C6225, C6241, C6266		CKSQYF473Z50
	C6232		CKSYB333K50
	C6251		CKSYB472K50
	C6223		CKSYF103Z50
	C6263		CKSYF473Z50

Mark	No.	Description	Parts No.
	RESISTORS		
	R6299, R6300		RD1/8PM102J
	R6113, R6116, R6118, R6268–R6271		RS1/8S000J
	R6275, R6276, R6278, R6283, R6284		RS1/8S000J
	R6290, R6293, R6294, R6297		RS1/8S000J
	R6243, R6244		RS1/8S101J
	R6211		RS1/8S103J
	R6237		RS1/8S182J
	R6209		RS1/8S221J
	R6239		RS1/8S332J
	R6101		RS1/8S470J
	VR6201		ACP1055
	VR6202		VRTB6VS223
	Other Resistors		RS1/10S□□□J
	OTHERS		
	BN6201	TERMINAL 4–P	AKA1016
	X6203	CRYSTAL RESONATOR	ASS1042
	X6201	CRYSTAL RESONATOR	ASS1066
	X6202	CERAMIC RESONATOR	ATF1027
	AM RF TUNING BLOCK		AXX1041

■ POWER MODULE

POWER MODULE (F50+R20) (AXQ1020), POWER MODULE (F50) (AXQ1018) and POWER MODULE (F100) (AXQ1017) have the same construction except for the following:

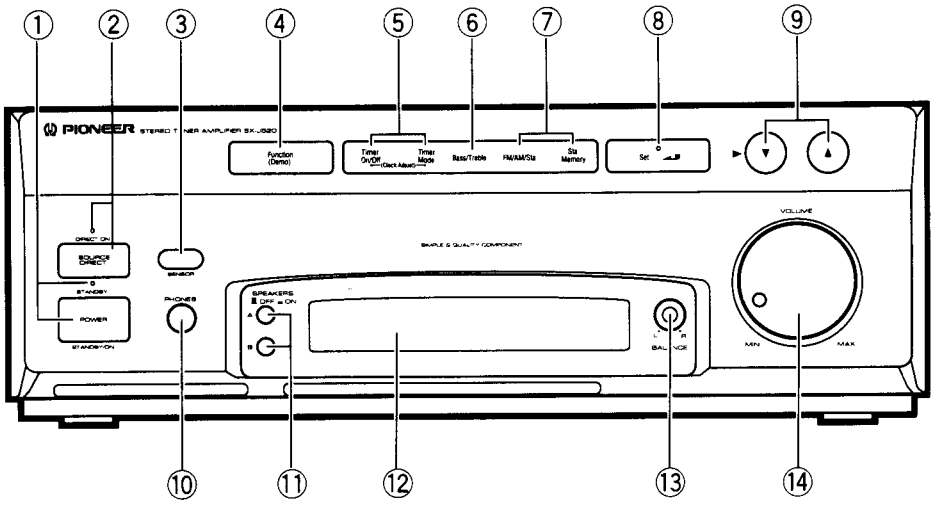
Mark	No.	Symbol & Description	Part No.			Remarks
			POWER MODULE			
			AXQ1017	AXQ1020	AXQ1018	
	1	FRONT ASSY FOR 100W	AWZ5389	.....	.....	
	1	FRONT ASSY FOR 50W	.....	AWZ5390	AWZ5390	
	2	PWR, PRTEC assy	AWZ5392	.....	AWZ5392	
	2	REAR, PWR, PRTEC assy	.....	AWZ5391	.....	
	16	Q7503	2SC4793	.....	.....	
	17	Q7504	2SC4793	.....	.....	
	18	Q7509	2SA1837	.....	.....	
	19	Q7510	2SA1837	.....	.....	
⚠	20	Q7511	2SA1264N	2SA1263N	2SA1263N	
⚠	21	Q7512	2SA1264N	2SA1263N	2SA1263N	
⚠	22	Q7513	2SC3181N	2SC3180N	2SC3180N	
⚠	23	Q7514	2SC3181N	2SC3180N	2SC3180N	
⚠	24	Q7111	.....	2SB1274	.....	
⚠	25	Q7112	.....	2SB1274	.....	
⚠	26	Q7113	.....	2SD1913	.....	
⚠	27	Q7114	.....	2SD1913	.....	

● PCB PARTS LIST

Mark	No.	Description	Parts No.
		FRONT ASSY FOR 50W (AWZ5390)	
		SEMICONDUCTORS	
	IC7501		UPC4570G2
	IC7701, IC7702		XRA4558F−P
	Q7507, Q7508		2SA1182
	Q7601		2SA1255
	Q7517, Q7518		2SB1115
	Q7501, Q7502		2SC2240
	Q7605, Q7606, Q7703		2SC2712
	Q7505, Q7506		2SC2859
	Q7603		2SC3138
	Q7515, Q7516		2SD1615
	Q7704		XDC143EK
	D7505, D7506, D7517, D7518		1SS181
	D7503, D7504, D7516		1SS184
	D7521−D7524		1SS244
	D7115, D7519, D7520, D7525, D7526		HSS104−02
	D7531, D7533, D7701−D7704, D7707		HSS104−02
	D7710−D7714		HSS104−02
	D7507−D7510		RD3.3ESB2
	CAPACITORS		
	C7703		ACG1051
	C7523, C7524		ACH1150
	C7509, C7510		ACH1151
	C7539, C7540		ACH1248
	C7519−C7522, C7545−C7552		CCSQCH101J50
	C7525−C7528		CCSQCH271J50
	C7503, C7504		CCSQCH331J50
	C7541, C7542		CCSQCH470J50
	C7529−C7532		CKSQYB333K50
	C7543, C7544		CKSQYB472K50
	C7602		CKSQYF103Z50
	C7601, C7603, C7702		CKSQYF104Z50
	C7537		CKSQYF473Z50
	RESISTORS		
	R7519, R7520		ACN1106
	R7515, R7516		ACN1107
⚠	R7541, R7542		RD1/4PMF100J
	R7711		RS1/10S1001F
⚠	R7547−R7550		RS1/10S2200F
	R7709		RS1/10S39R0F
	R7710		RS1/10S56R0F
	R7708		RS1/10S7500F
	R7753		RS1/8S000J
⚠	R7537−R7540		RS1/8S100J
	R7553		RS1/8S101J
⚠	R7543, R7544		RS1/8S7R5J
	VR7701		ACP1076
	Other Resistors		RS1/10S□□□J
	REAR, PWR, PRTEC ASSY (AWZ5391)		
	SEMICONDUCTORS		
	IC7101		UPC4570G2
	Q7107, Q7108, Q7208, Q7215, Q7219		2SA1162
	Q7213		2SA1182
	Q7109, Q7110		2SB1115
	Q7301, Q7302		2SC1815
	Q7101, Q7102		2SC2240
	Q7105, Q7106, Q7205−Q7207, Q7209		2SC2712
	Q7212, Q7214, Q7218, Q7220, Q7221		2SC2712
	Q7216		2SC2859
	Q7211, Q7217		2SC3138
	Q7103, Q7104		2SD1615
	Q7210, Q7222		XDA124EK
	D7113, D7114		1SS181
	D7111, D7112		1SS184
	D7201, D7205		HSS104−02
	D7204, D7206		HZS6C3L
	D7203		HZS9A2L
	D7107−D7110		RD2.2ESB2
	CAPACITORS		
	C7402, C7406, C7408		ACG1050
	C7401, C7405, C7407		ACG1053
	C7123, C7124, C7212		ACH1056
	C7409		ACH1150
	C7109, C7110, C7207, C7208		ACH1151
	C7140, C7141		ACH1248
	C7119−C7122		CCSQCH101J50
	C7133−C7136		CCSQCH221J50
	C7125−C7128		CCSQCH271J50
	C7103, C7104		CCSQCH331J50
	C7142, C7143		CCSQCH470J50
	C7205		CEJA101M10
	C7301		CKSQYB332K50
	C7129−C7132		CKSQYB333K50
	C7213, C7214		CKSQYF103Z50
	C7206, C7404		CKSQYF104Z50
	C7137, C7138		CKSQYF472Z50
	C7139		CKSQYF473Z50
	C7801, C7802		CKDYX473M25
	RESISTORS		
	R7403, R7404		ACN1104
	R7119, R7120		ACN1105
	R7115, R7116		ACN1107
⚠	R7137−R7140		RS1/10S0100F
	R7303		RS1/10S1002F
⚠	R7147−R7150		RS1/10S2200F
	R7304		RS1/10S8200F
⚠	R7141−R7144		RS1/8S100J
	R7153		RS1/8S101J
	Other Resistors		RS1/10S□□□J
	OTHERS		
	CN7101	CONNECTOR (12P)	KPE12

9. PANEL FACILITIES

This unit features an "illumination guide function" which uses flashing indicators to show which controls should be manipulated next.



* The model shown in the illustration is the SX-J520.

TUNER AMPLIFIER: SX-J520/SX-J420/SX-J320

① POWER STANDBY/ON switch/STANDBY indicator

This is the switch for electric power.

ON: When set to the ON position, power is supplied and the unit becomes operational.

STANDBY: When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.
When only the time is indicated in the display section, the unit is in STANDBY.

② SOURCE DIRECT button/DIRECT ON indicator

When this button is pressed ON, the indicator lights, and input sources are played back without passing through the sound field processor or sound image controller (only the spectrum analyzer display lights).

③ REMOTE SENSOR

④ Function (Demo) button

Each time the Function (Demo) button is pressed, the amplifier function changes in the following order:

[SX-J520, SX-J320]

→ PHONO → TUNER → TAPE →MD:DCC→
LD ← VIDEO ← CD ←

[SX-J420]

→ PHONO → TUNER → TAPE →MD:DCC →
AUX ← VIDEO ← CD:LD ←

If this is pressed from power off, it goes into demonstration mode.

⑤ Timer control buttons

Timer On/Off: Used to activate timer operation at the time set. Each time the button is pressed, the operation changes as follows:

→ REC → WAKE-UP →
OFF ←

Timer Mode: Used when setting the time on the timer; when the button is pressed, the function changes in the following order:

→ REC → WAKE-UP1 →
OFF ← WAKE-UP2 ←

Also, the clock adjustment mode can be selected by pressing the On/Off and Mode buttons simultaneously.

⑥ Bass/Treble button

Press this button when you wish to adjust bass or treble tone emphasis. Each time the button is pressed, the function switches between BASS ↔ TREBLE.

⑦ Tuner control buttons

FM/AM/Sta: When this button is pressed, the reception band function changes in the following order:

→ FM broadcasts → AM broadcasts →
Sta (station mode) ←

Sta Memory: Used when recording broadcast stations in the station memory. When the button is pressed, the function changes in the following order:

→ MEMORY FM? (or AM?) →
OFF ← MEMORY AUTO? ←

⑧ **Set button**
Used when setting the timer, and for operating the tuner's station memory.

⑨ **Up-down buttons**
Used when setting the timer, and when performing station tuning and memory operations.

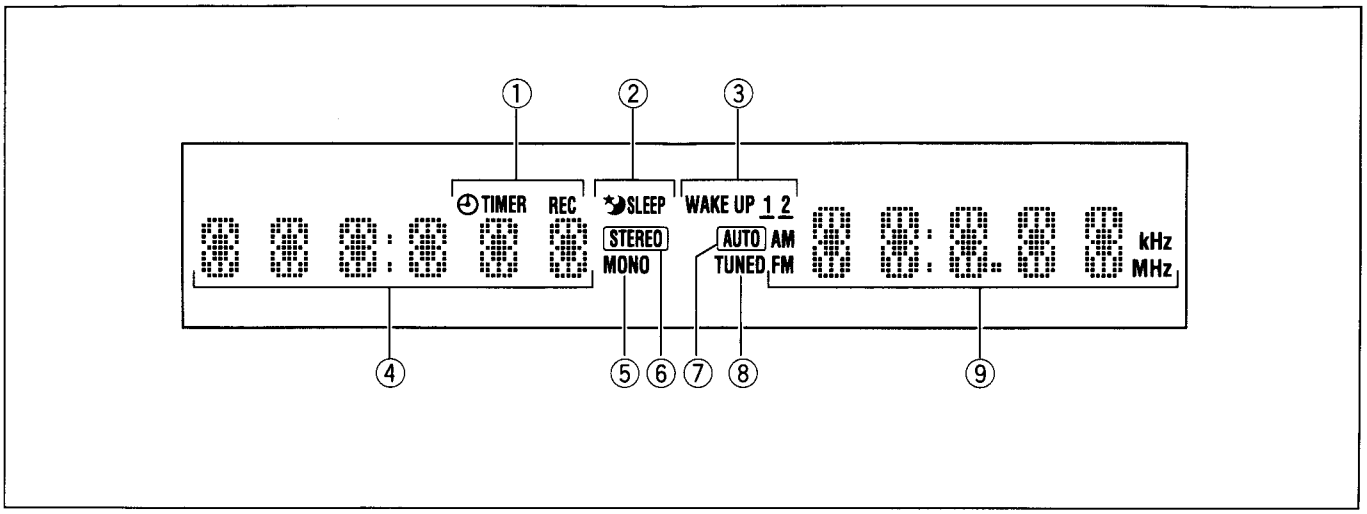
⑩ **PHONES jack**
For stereo headphones.
NOTE:
There is no output from the speakers when headphones are plugged into PHONES jack.

⑪ **SPEAKERS buttons (SX-J520 only)**
Speakers connected to the rear panel SPEAKERS A, B terminals can be switched ON/OFF independently.
NOTE:
When the speaker system is connected to only one speaker terminal (A or B) and both A and B buttons are ON, there will be no sound. Turn ON only the selector to which the speaker system is connected.

⑫ **Display section**

⑬ **BALANCE control (SX-J520 and SX-J420 only)**
Use to adjust front left and right speaker balance.

⑭ **VOLUME control**



Display Section

① **TIMER REC indicator**
Lights during recording timer setting.

② **SLEEP indicator**
Lights when the sleep timer is ON.

③ **WAKE UP 1, 2 indicator**
Lights to indicate the selected timer during wake up timer setting.

④ Displays station frequencies, time, and operating status.

⑤ **MONO indicator**
Lights when the remote control FM MONO button is ON during stereo FM broadcast reception.

⑥ **STEREO indicator**
Lights during FM stereo broadcast reception.

⑦ **AUTO indicator**
Lights during automatic tuning.

⑧ **TUNED indicator**
Lights when a broadcast station is received.

⑨ Displays station frequencies and operating status.

[SX-J520/SX-J420]

* Illustration shows the SX-J420 European model.

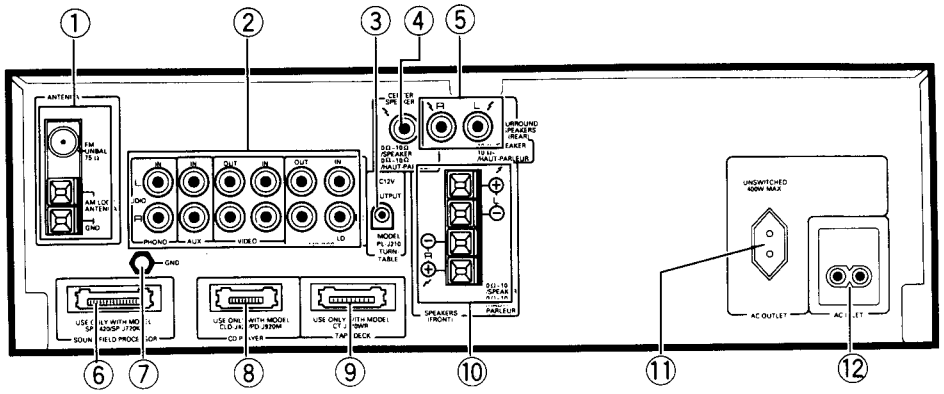
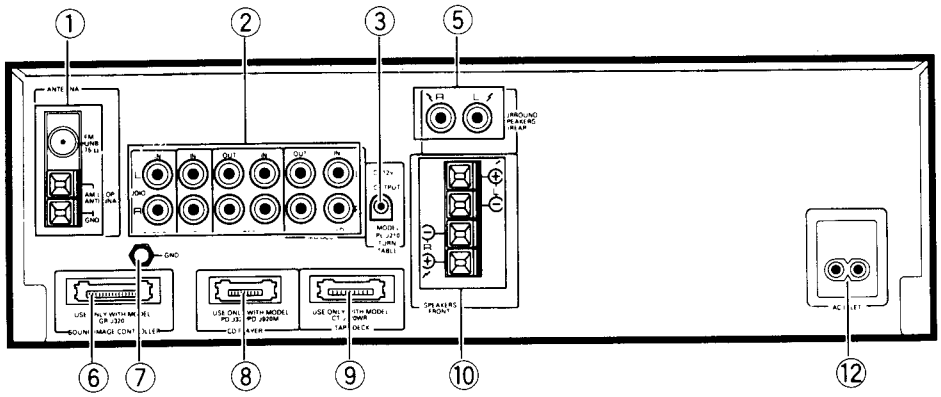


Illustration not applicable to U.K. model.

[SX-J320]



TUNER AMPLIFIER: SX-J520/SX-J420/SX-J320

① FM/AM ANTENNA terminals
Antennas must be connected to these terminals: otherwise you will not be able to receive stations.

② Input/Output jacks
PHONO IN: Connect the output cord of the turntable to these jacks.
VIDEO:
IN: Connect to the audio output jacks of VCR.
OUT: Connect to the audio input jacks of VCR.
MD:DCC:
IN: Connect to the analog audio output jacks of the Mini Disc player or Digital Compact Cassette deck.
OUT: Connect to the analog audio input jacks of the Mini Disc player or Digital Compact Cassette deck.
[SX-J420]
AUX IN: Enables connection to the output jacks of audio components such as a second CD player.

[SX-J320/SX-J520]
LD IN: Connect to an LD player's audio output jacks.

③ TURNTABLE (DC 12 V OUTPUT) jack
This jack supplies power to turntable PL-J210.

④ CENTER SPEAKER terminal (SX-J420 only)
Connect to the center speaker.

NOTE:
Connect a speaker system having a nominal impedance ranging from 8 Ω to 16 Ω or more.

⑤ SURROUND SPEAKERS jacks
Connect to the Surround speaker system.

NOTE:
Connect a speaker system having a nominal impedance of 16 Ω or more.

⑥ SOUND FIELD PROCESSOR jack (SX-J420 only)
Connect the sound field processor (SP-J720K/SP-J420) cable here.

SOUND IMAGE CONTROLLER jack (SX-J520 and SX-J320 only)
Connect the sound image controller (GR-J320) cable here.

⑦ Ground terminal (GND)
Connect the ground lead of the turntable here (except for PL-J210).

⑧ CLD/CD jack
Connect the compact disc player (PD-J920M/PD-J520/PD-J320) or CD CDV LD player (CLD-J420) system cable here.

⑨ TAPE DECK jack
Connect the cassette deck (CT-J520WR/CT-J320WR) system cable here.

⑩ SPEAKERS terminals

[SX-J520]

A: Connect to a first set of speakers.

B: Connect to a second set of speakers.

The SX-J420 and SX-J320 are furnished with only one set of speaker terminals.

NOTE:

Connect a speaker system having a nominal impedance ranging from 8 Ω to 16 Ω.

⑪ AC OUTLET (SX-J420 only) UNSWITCHED 100 W MAX

Power supplied through this outlet is turned on and off by the tuner amplifier's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W. CLD-J420 CD CDV LD player cord can be connected.

NOTE:

Do not connect appliances with high power consumption such as heaters, irons, monitors, or television sets to the AC OUTLET in order to avoid overheating or fire risk.
This can cause the amplifier to malfunction.

⑫ AC INLET

Connect the accessory power cord to a household power outlet.

10. SPECIFICATIONS

TUNER AMPLIFIER:
SX-J520/SX-J420/SX-J320

FM Tuner Section

Frequency range ..... 87.5 MHz to 108 MHz
Usable Sensitivity..... Mono: 12.8 dBf, IHF (1.2 µV/75 Ω)
Sensitivity (DIN)..... Mono S/N 26 dB: 1 µV/75 Ω
Stereo S/N 46 dB: 50 µV/75 Ω
Signal-to-Noise Ratio (IHF, 85 dBf Input)..... Mono: 77 dB
Stereo: 73 dB
Signal-to-Noise Ratio (DIN)..... Mono: 66 dB
Stereo: 60 dB
Distortion ..... Stereo: 0.5 % (1 kHz)
Antenna Input..... 75 Ω unbalanced
Output..... 650 mV (100 % MOD.)

MW (AM) Tuner Section

Frequency range..... 531 kHz to 1,602 kHz
Sensitivity (IHF, Loop antenna) ..... 350 µV/m
Output..... 150 mV (30 % MOD.)

Amplifier Section

[SX-J320]
Continuous Power Output (RMS)
..... 65 W + 65 W (1 kHz, T.H.D 10 %, 8 Ω)
Continuous Power Output (DIN)
..... 55 W + 55 W (1 kHz, T.H.D 1 %, 8 Ω)
Total Harmonic Distortion (1 kHz, 30 W, 8 Ω) .... 0.1 % **

[SX-J420]
Continuous Power Output (RMS)
Front ..... 65 W + 65 W (1 kHz, T.H.D 10 %, 8 Ω)
Rear..... 11 W + 11 W (1 kHz, T.H.D 10 %, 16 Ω)
Center ..... 22 W (1 kHz, T.H.D 10 %, 8 Ω)
Continuous Power Output (DIN)
Front ..... 55 W + 55 W (1 kHz, T.H.D 1 %, 8 Ω)
Rear..... 8 W + 8 W (1 kHz, T.H.D 1 %, 16 Ω)
Center ..... 16 W (1 kHz, T.H.D 1 %, 8 Ω)
Total Harmonic Distortion (1 kHz, 30 W, 8 Ω) ..... 0.1 %**

[SX-J520]
Continuous Power Output (RMS)
..... 115 W + 115 W (1 kHz, T.H.D 10 %, 8 Ω)
Continuous Power Output (DIN)
..... 95 W + 95 W (1 kHz, T.H.D 1 %, 8 Ω)
Total Harmonic Distortion (1 kHz, 50 W, 8 Ω) ..... 0.1 % **

Power Supply/Miscellaneous

Power requirements
U.K. model ..... a.c. 240 Volts ~, 50 Hz
European model ..... a.c. 220 – 230 Volts ~, 50/60 Hz
Power consumption
SX-J520..... 440 W
SX-J420..... 340 W
SX-J320..... 300 W
AC outlets
SX-J420 only
unswitched (x 1)..... 100 W MAX

Dimensions ..... 360 (W) x 361.5 (D) x 120.5 (H) mm
Weight
SX-J520 ..... 7.7 kg
SX-J420 ..... 7.3 kg
SX-J320 ..... 6.9 kg

Accessories

Operating instructions..... 1
Remote control unit..... 1
Dry cell batteries "AAA" (IEC R03/UM-4) 2
FM T-type Antenna 1
AM Loop Antenna..... 1
Power cord 1
Speaker cords (furnished with speakers) 2

** Measured By Audio Spectrum Analyzer.